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Textile World

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Editor: Douglas G. Woolf

The Thrill of "Trading Dollars"

"WELL, it must be pleasant to be busy again," we remarked last week to a New England wool manufacturer. "Yes," he replied hesitatingly, "we are busy—but you know we're not making any money."

To a rayon producer, we said: "Things certainly have changed, haven't they? A few months ago, you could hardly give away your yarn—and now some plants are running 100%, and there's a real danger of a shortage in the fall."

"There's no doubt about our doing the business," he admitted, "but what's the use, when there's no profit in it?"

We had similar replies from cotton goods manufacturers when business in that branch was at its peak last winter.

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Personally, we are a little bored with the monotony of these reactions. We used to be quite impressed by the statement that "we are only trading dollars"; and quite concerned over the economics involved. But repetition, over a period of years, has robbed it of its effectiveness.

It is not that we question the veracity of most of the men who deliver this solemn pronouncement. It is merely that we marvel at their forbearance. There is no longer any hint of resentment, or regret, in their tones; on the contrary, there is a certain smugness, amounting almost to a sense of pride.

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So long as textile manufacturers can tell of profitless business without getting "hot under the collar" and doing something about it, all the booms and peaks will be largely wasted. It helps, of course, to keep the plants and workers busy—but the industry is not going to get anywhere permanently if it continues to sell at a loss, or without profit.

The amazing thing is that there is no excuse for this condition. In cotton goods last winter and early spring; in wool goods during recent weeks; in rayon at present — prices which permitted a fair return could have been secured, and maintained. But evidently manufacturers enjoy the preciseness involved in the business of "trading dollars."

We hope this psychological gratification will compensate for more substantial returns.

The Week in Textiles

as Reflected in This Issue

General

Power-Cost Determination

A fairly definite knowledge of not only what power is costing, but where the money is spent, is a matter of necessity in this day of intensive competition. A series of self-explanatory forms are given upon which it is possible to base a simple but sufficiently accurate system of power-cost determination. *(page 39)*

Carpet Wearing Machine

Tests on various carpets to determine their relative wearing qualities have been conducted with an instrument developed by the U. S. Bureau of Standards. Wearing forces closely approximating actual conditions are employed. *(page 55)*

Needle Guard

Development of a guard to protect the fingers of sewing-machine operatives is announced. *(page 55)*

Cotton

Yarn-Testing Methods

There are three generally accepted methods of determining the tensile strength of yarns. Comparison is made of the results of the three methods, and conclusions are drawn as to their relative merits. The article is of value to mill men in selecting the type of test best suited to their purposes. *(page 40)*

Warp Slippage in Tapes

The use of the leno weave for the prevention of warp-thread-slippage is discussed. *(page 44)*

Discuss Print Cloths

Increase in sales this year, reduction of stocks, and the conservative production schedules now in effect, were the principal topics discussed at meeting of the print cloth group of The Cotton-Textile Institute, held at Greenville, S. C. July 28. *(page 47)*

Raw Cotton Eases

With less attention being paid to the European situation, raw cotton reflected domestic developments and eased as a result of favorable weather reports. *(page 59)*

Cotton Yarns Dull

Cotton yarn market assumes waiting attitude pending definite developments. Small lots predominate and the number of express shipments called for is notable. *(page 59)*

Goods Mills In Healthy Condition

Thanks to the exceptional volume of business placed in June, cotton goods mills find little to complain of in the current lull; they are still busy delivering on orders placed previously. *(page 65)*

Wool

Worsted-Equipment Obsolescence

Cap spinning is threatened by ring spinning; cap twisting, by ring twisting; flyer reducing and roving, by ring reducing and roving; ordinary gilling by intersecting gilling; and Bradford drawing, by French porcupine drawing. *(page 28)*

Future of Wool Industry

To the extent that new uses and fabrics cannot be developed in wool piece goods, definite relief must be drawn from machinery scrapping, is the conclusion reached in a study by the Wharton School of Finance & Commerce, University of Pennsylvania. Statistical facts on machinery are needed it is stated. *(page 34)*

Wool Institute Disbands

Last-minute efforts to win support of the industry failing, the board of directors and the executive committee of the Wool Institute voted to dissolve the organization. Wool goods men see possibility of a new body, restricted to selling activities, being formed. *(page 37)*

Worsted-Silk Novelty Yarn

Problems involved in the manufacture of a combination yarn of this type are taken up. Methods of calculating the percentage of each yarn to be used are outlined. *(page 44)*

Differential Mule

Announcement is made of a self-acting woolen mule, the main shaft of which rotates always in the same direction and at a speed that is constant. *(page 54)*

Raw Wool Steady

Volume of sales in wool market slackens normally and prices remain firm with some rise in asking prices. *(page 61)*

No Interest in Goods Openings

Wool goods cutters are concentrating on the current market and are indifferent to discussions about spring openings, which attitude tends to cause further postponement of these showings. *(page 65)*

The Textile Outlook

DOMESTIC economic developments, stealing the lime-light from international affairs for the first time in weeks, had the same arresting influence on textile markets as on general business. Watching indications of the effect of the steel corporation's dividend and salary action upon stock and commodity prices, buyers were cautious. Wage-deflationists professed to receive support of their ideas from Secretary Lamont's letter, and from the U. S. Steel development, but more sober thinkers pointed out that the basic situation had not changed; that, in fact, the radical cut in dividends before resorting to wage cuts, marked a real step forward in business practice. . . . The general tone of all the textile markets has been one of waiting for definite developments; an attitude which will probably carry over for a few weeks. Raw cotton eased on favorable weather reports and there is no immediate hope for recovery. Wool continues to set good example of steadiness.

Knitting

Individual-Needle-Wrap Machine

A fully automatic machine for the manufacture of embroidery-patterned hose has been developed. Elimination of all vertical and horizontal floats, and a variety of possibilities in regard to wrapping and shogging, are points of interest. *(page 54)*

Display Forms for Hosiery

Possibilities along the line of hosiery displays are broadened by the introduction of a new set of fashion forms. *(page 55)*

Talk of Hosiery Price Advance

There is much talk of an advance in full-fashioned hosiery prices next month —but meanwhile the market registers only a slow pick-up. Mesh hosiery demand is better. *(page 66)*

Winter Underwear Sales Jump

Heavyweight underwear demand, several months late, is now showing itself and there is prospect of a shortage as mill capacity would not be great enough to meet a full season's demand if that call should be concentrated into a few weeks, as is indicated. *(page 66)*

Off With the Old!

Swimsuit producers had scarcely finished their exceptionally good season than they immediately got busy planning their 1932 lines. Current business is limited to occasional repeat orders. *(page 66)*

Silk

Adjusting Loom Pick

A multitude of practical suggestions of interest to all loomfixers is offered by a silk-weaving expert. *(page 31)*

Consumer Advice Misleading

Sales manager of Cheney Bros. takes exception to statements regarding silk weighting and other matters in new "Handbook of Buying." *(page 42)*

Institute Dies—Cooperation Lives

THE Wool Institute, long on its death-bed, succumbed this week. Its demise does not represent a failure for cooperative effort. It represents a failure, on the part of one group, to achieve cooperation. It is not surprising that, in an industry so decentralized as is textile manufacture, the road to coordinated thinking should be marked with set-backs.

Nor does this week's development mean the end of cooperation in the wool division. The ink on the obituary notices was barely dry before men in the trade were discussing the form the new movement should take.

It would probably be difficult to isolate any one branch of American industry which needs to temper its individualism with some sense of interdependence of units, more acutely than does wool manufacture. The way in which this is to be brought about demands the immediate and unselfish thought of everyone concerned. All differences, all jealousies, must be subordinated to this end.

In dying, the Wool Institute left a challenge to its erstwhile members.

—Editor.

Weaving Without Temples

The possibility of eliminating the temples in georgette weaving is discussed and the difficulties to be overcome are outlined. *(page 45)*

Union Rivalry Strike Issue?

With two factions now on strike in the silk industry, the Communist-controlled National Textile Workers Union on one hand, and the merged Associated Silk Workers and United Textile Workers, A. F. of L. unit, on the other, there are signs the strike will be mainly a contest between the two groups. Meanwhile, the walk-out has closed numerous mills in Paterson, N. J. and New England. *(page 46)*

Strike Causes Reselling

Numerous broadsilk mills, shut down by the strike, are selling their raw silk stocks to the highest bidder. Meanwhile the raw silk market is dull, due to hesitancy caused by the walk-out. *(page 63)*

Dog Days for Silk Yarns

Silk yarns, both thrown and spun, find few takers these days, because of the normal summer lull, and strikes. Prices are fairly steady. *(Page 63)*

Broadsilk Demand Good

With the strike threatening to cut seriously into this season's silk fabric output, both garment manufacturers and piece goods buyers have begun to place business actively on the outstanding lines. Strike has not affected mill stocks—as yet. *(page 65)*

Rayon

Warpwise Streaks in Crepe

The most common reason for such streaks and a practical method for overcoming them are discussed. *(page 45)*

Discolorations in Half Hose

Bleeding of dyestuffs when the cloth is left in a wet condition or the original use of unsuitable dyestuffs may cause circles or blotches in rayon goods. *(page 45)*

Yarn Shortage Certain

Leading producers consider a fall shortage of yarns assured, and have instructed salesmen to discourage new business. *(page 63)*

Processing

One-Bath Hosiery Dyeing

The disadvantages of the one-bath method of dyeing hosiery can be overcome by the observation of suitable precautions. There are numerous advantages which merit the consideration of the dyer. *(page 38)*

Dyeing of French-Spun Yarn

Unevenness in the dyeing of French-spun worsted yarns is generally due to either residual soap or sun bleaching. Hard water offers difficulties in scouring. *(page 44)*

Uneven Dyeing of Cotton-Silk Hose

A method of matching shades on cotton-and-silk hosiery by the proper selection and application of dyestuffs is given in detail. *(page 45)*

The Business Outlook

THE lengthening list of the seven plagues of depression—widespread wage and dividend reductions, debt moratoria and defaults, strikes, drought, grasshoppers, politicians, bitter-end deflationists and optimistic forecasters—is about completed, and Pharaoh should soon be willing to let business out of bondage if some as yet anonymous Moses will emerge from the bullrushes to lead it. The depressing influence of foreign factors has lifted for a while, giving way this week to dismal inferences from steel dividend reductions and wage cut rumors. These woeful forecasts are, however, not wholly warranted by the facts. Steel production itself, turning upward slightly out of season, seems to be joining other industries responding to diversified consumer demand. This stimulation from current consumer replacement needs is reflected also in the steady unseasonal upswing of electric power output. Even construction, the key to recovery, continues to resist further decline.—*The Business Week.*

Obsolescence Strikes at Several Points in Worsted-Yarn Equipment

Second article in second depreciation series*

THE shadow of obsolescence has not fallen suddenly or generally over the equipment of the worsted-yarn manufacturer, but it has crept stealthily over certain of his processes until it has become as firmly established as the shadow which the talking picture has cast over the silent film. In very few cases has a distinct type of worsted-yarn machine been absolutely superseded by a decidedly different type; rather have machines operating on well-established principles been gradually improved to speed up production, reduce labor cost, improve quality of product, and decrease waste.

There are certain machines, however, which are believed by some—and in certain cases by many—to be obsolete in principle. The absolute extent of such obsolescence is in most instances still a matter of controversy. It is quite probable that in certain mills, under certain conditions, and for certain purposes such machines are still suitable; while for other conditions and purposes they are antiquated and should be replaced.

Take the cap frame, for example. It would probably be unwise, or at least too early, to attempt to settle definitely at the present time the controversy as to whether in any or all cases this machine has been rendered obsolete by the modern ring frame. The intersecting gill box, for another example, gives many indications of generally superseding the ordinary gill box, but there are those spinners who will still dispute—quite blindly, it seems in many cases—the desirability of installing the former machine in their particular plants. Again, some mills have recently shown substantial doubt regarding the adequateness of the Noble comb for Bradford work by making several extensive installations of the square-motion comb, but the Noble comb is still the more popular machine. The obsolescence of certain other machines, however—such as, for example, the stationary-table dryer and the flyer spinning frame—will be disputed by few.

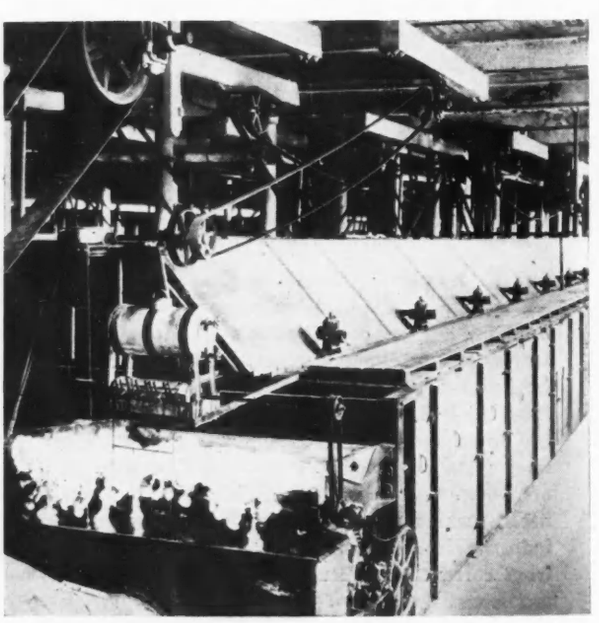
In some cases machines are out of date in only certain of their parts, and these parts can be replaced with others of more modern type without the machine as a whole being affected. In this classification fall such items as plain bearings, which are rapidly giving way in many instances to the anti-friction type; old lubrication devices, which are being superseded by high-pressure systems; and inefficient machine drives, which are retreating before a variety of modern types.

In view of the factors which affect the existence of obsolescence under various conditions, the writer will not commit the folly of attempting to draw a rigid line between those machines which are up to date and those which are too antiquated for continued service. Rather he will point out what developments have taken place in certain pieces of equipment in recent years in order that the reader may compare the machinery described with that which is in his plant. To the mill manager must fall the task of determining whether, considering the conditions under which he operates, the equipment he uses can profitably be replaced.

Opening, Scouring and Drying

Wool openers are now frequently made entirely of metal, with the exception of the feed table, and are constructed more sturdily, with the result that higher production is possible. Also the screens have been made more adjustable and the side frames have been equipped with removable panels.

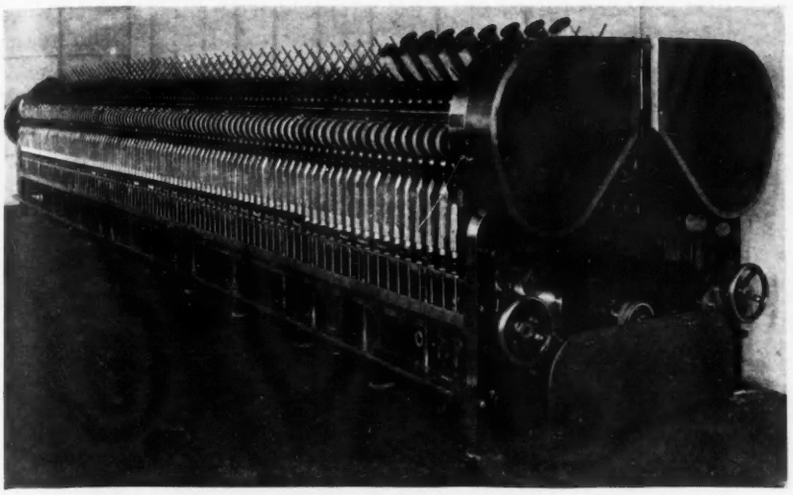
Modern washers are more sturdy than older types and permit less vibration. Rakes are efficiently balanced and are designed to prevent felting while operating at comparatively high production. Few washers today are not equipped with settling bowls; and in some mills which find it necessary to avoid stream pollution, the



Improvements in the wool-washing department have been mainly in methods of drying

*The first article, which dealt with obsolencence in cotton-yarn machinery, appeared July 4, page 34. The third, which will discuss woolen-yarn machinery, is scheduled for Sept. 5.

IN TEXTILE EQUIPMENT . . . .



Is the cap frame obsolete?

liquor from the first bowl is purified centrifugally and returned to service. The bowls are deep and so designed as to save time and labor in cleaning. Squeeze rolls have replaced the centrifugal extractor to save labor and increase production. When covered with rubber, these rolls last longer and hence reduce covering costs, but many scourers have found that the resulting squeeze is not entirely satisfactory. In France has been developed a system of washing which reduces the consumption of soap and alkali by employing a solution of suint, but which adds a special centrifugal extracting.

Among the continuous stock dryers holding sway are the agitating-table type and the three-apron type, but at the present time the single-apron or single-conveyor type is favored. Improved fan designs and more efficient heat-radiating surfaces have served to reduce steam consumption as much as 25%. The newer models save 25 to 40% of the floor space formerly required and have been made more durable to avoid operating troubles and shutdowns. Heat losses have been reduced by improved housings. Drying capacity has of course been increased, and even five years ago it was found possible to dry 700 lb. per hour. One installation made at about that time reduced drying cost per thousand pounds from $1.80 to 50c.

Automatic feeds for cards have been improved to give more accurate and uniform weight. On one type an automatically controlled double scale pan prevents surplus stock from falling into that which has already balanced the scale. It is found that the weight of stock being fed can now be held within a variation of 2% above or below the set weight, as compared with the 5 to 10% formerly possible. The application of eccentric combs for stripping the aprons is said to keep the stock more glossy and open.

Burr rollers and automatic burr pans have been made more efficient, and can be lifted off and returned to service without necessitating readjustment of the working space. Special attention has been given to the accurate balancing of steel-bladed rollers. A device which can be installed on old or new cards removes fine burrs and paint locks efficiently and reduces noilage 5 to 6%. Hardness of the wire in metallic breasts has been increased, and ball or roller bearings have been applied to these cylinders.

There is a certain tendency toward increased widths in worsted cards, and several successful installations of the 72-in. type have been made in mills near Passaic, N. J., and in Russia. The placing of arches and frames within $\frac{1}{16}$ in. of the cylinders reduces air currents and helps to prevent the collection of fly waste. Wide cards of this character are reported to have increased production from 25 to 30%. Large cylinders are of course considered necessary today.

To make possible higher speeds with little vibration, worsted cards have been redesigned for strength and rigidity, and special attention has been given to careful balancing of all rollers.

Fancies can now be removed without disturbing the box. Oil-tight boxes are provided for the eccentrics of the doffing motion. The comb is made of steel tubing in some instances and is balanced and held in place by split clips, instead of set-screws. Ball-bearing can coilers keep stock clean and reduce waste 5%.

Brackets for holding the grinders are accurately placed on the cards by the machine builder and do not have to be removed after grinding, saving time in setting and assuring that the grinder is parallel to the cylinders.

Although the ordinary gill box has been constructed to withstand high speed, and provision has been made for reducing the distance from the last faller to the nip of the front rollers, the belief that this machine will eventually be superseded by the intersecting gill box is constantly growing. Although the value of the intersecting gill in the French system of worsted-yarn manufacture has long been recognized, it is only in comparatively recent years that Bradford spinners have given it serious consideration. Its advantages lie in straighter gilling, reduced fiber breakage, increased production, and better control of the short fibers.

An increase in tear of from $1\frac{3}{4}$ to 5% has been reported by mills which have applied intersecting gilling to the combing department. The explanation for this does not lie in there being more short fibers left in the sliver, but in the fact that there are fewer broken fibers. The exact percentage of increase in tear depends upon the quality of the wool.

For backwashing the air dryer has definitely superseded the heated-drum type. In the old type the direct contact of the stock with the heated metallic surfaces all but burned the wool and destroyed the natural qualities of at least the small fibers. In the newer type, in which hot air is circulated through the chamber, the drying is slow and even and the wool emerges from the machine in a more lofty condition. The greater length of sliver which the dryers of this type can contain at one time increases the production of the backwasher.

The following data was obtained in a test on shabby Australian 64s: 56 ends up; 242 lb. delivered per hour; 2 oz., $15\frac{1}{2}$ drams of moisture per lb.; 26 lb. per sq.in. steam pressure; and 194° F. temperature. A similar test on a Bradford standard 64s gave the following:

60 ends up; 265 lb. delivered per hour; 3 oz., 4½ drams of moisture per lb.; 32 lb. per sq.in. steam pressure; and 197° F. temperature. On a test of 56/58s wool the following was obtained: 400 lb. delivered per hour; 2 oz., 14 drams of moisture per lb.; 50 lb. per sq.in. steam pressure; and 190° F. temperature.

For the drawing-off rollers of Noble combs, an improved mechanism permits weight to be applied in exactly the same amount at top and bottom and adjustment to be made from the top without stopping the comb or removing the balls from the creel. The even and regular weighting resulting is said to increase the life of the leathers 50%, and time is saved in changing leathers. The small intermediate plate has been made to swing on the center pillar-shaft bushing in order to prevent the small short pillar shaft from pulling away. Ball bearings are coming into common use on these machines. Minor refinements have been made in the French comb.

Drawing Machinery

Flyer reducers and rovers have been handicapped by production limitations, with the result that flyer spindles have been improved and ring reducers and rovers have increased in popularity. Improvements said to make possible an increased spindle speed of 50% consist of ball-bearing collar and ball-bearing top steadier for the flyer. It is asserted that a greater increase in speed is restricted only by the inability of the stock to stand the strain.

Ring reducers and rovers afford a one-third increase in production per spindle and permit the making of larger packages. For example, a roving permitting a package of only 6 x 3½ in. on the flyer can be made into an 8 x 4-in. package on the ring. In some instances a package as large as 10 x 5 in. can be made. The benefits of the larger package are felt all through the spinning room. Roving from modern ring frames is declared to be comparable to that from flyer frames. Although flyer frames can be changed over to use rings, the increase in production is only about half that obtained by employing a ring frame built as such.

Just as the intersecting gill box has successfully entered the Bradford system of drawing, so is the porcupine drawing box stepping over from French drawing to Bradford. The purpose it will probably serve is the development of a yarn retaining the solidity and elegant appearance of an oil-spun yarn but having the lofty character commonly associated with dry-spun yarns. The porcupine offers a method of pin control which does not exert a strain on the fibers, retains the natural waviness and elasticity, and prevents breakage. The ideal system is possibly a combination of porcupine and Bradford operations, in which two or three porcupine boxes work the sliver when thick and insert twist as the final procedure before the sliver passes to the ordinary Bradford reducing and roving frames. The final drafting against twist solidifies the slubbing and enhances the luster inherent in the wool. In the new porcupine drawing box for oil-combed wool, the stock passes underneath the porcupine and is freed by means of loose metal bars which are located between the rows of pins and which drop down on the stock as the porcupine revolves.

Spinning Machinery

When we consider spinning, we encounter the question, is the cap frame obsolete? The ability of the ring frame to produce a smoother and more regular yarn has been recognized for a long time, and now the important advantage which this machine holds in the building of a larger yarn package seems to be assuming more importance in the race between the two machines. A warp yarn which can be made into a package weighing only 1½ oz. on a cap frame can be built into a 5- or 6-oz. package on the modern ring frame. The fewer doffings required by the larger packages afford an increase in production and make possible the assignment of more spindles to spinners and doffers—particularly the latter. The fewer knots resulting in the yarn are of advantage to the twister, weaver, burler, and mender. In fact, it is likely that the greatest benefits derived from ring spinning are in the subsequent operations.

In the case of filling yarn, the weight of the cap-frame package will range from ¾ to 1¼ oz., while the ring-frame package will range from 2 to 2¾ oz. The efficiency of the frame is increased by the fewer doffs, and loom efficiency is improved by the use of larger filling packages.

A prominent builder of worsted-spinning frames has adopted the ring frame with the stationary ring rail and traversing spindle as standard. Another builder favors a frame in which the ring rail rises during the first half of the operation and the spindle rail sinks during the latter half. The gradual, early shortening of the balloon is intended to compensate for the increasing frictional resistance between the traveler and the ring as the lubricant with which the ring was supplied at the beginning of the spin is dissipated. The object of both builders is, of course, to make a large package and yet keep a uniform tension on the yarn during spinning.

The Bradford system is adopting French machinery

The larger packages mean that more twisting spindles can be handled by one operative in making ply warp yarn, and in many cases winding before twisting is rendered unnecessary. Where winding is conducted, the cost of the operation is cut in half.

The ring-and-traveler principle is profitably applied to the dolly-roll type of twister, in which yarn is run from one set of bobbins to another. The ring twister can transfer yarn from a package weighing 2 to 5 oz. to a twister package weighing up to 10 oz., which corresponds to a cap twister running yarn from a 2½-oz. package to a 3½-oz. package. This means that twisting costs can be cut practically in half.

The use of a differential motion on the cylinder shaft of worsted mules eliminates considerable loss in both working capacity and time by rendering unnecessary the stopping of the main shaft and the rope drive to the spindle cylinders, and reversing the cylinders by means of an auxiliary drive. Several features of the mule are contained in a new ring frame for dry-combed wools which is said to make possible the ring spinning of high counts.

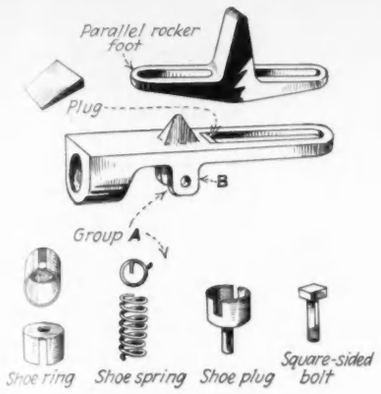
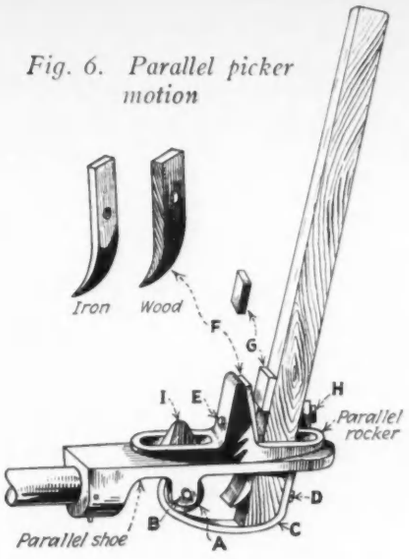


Fig. 5. Parallel shoe and rocker foot

Fig. 6. Parallel picker motion



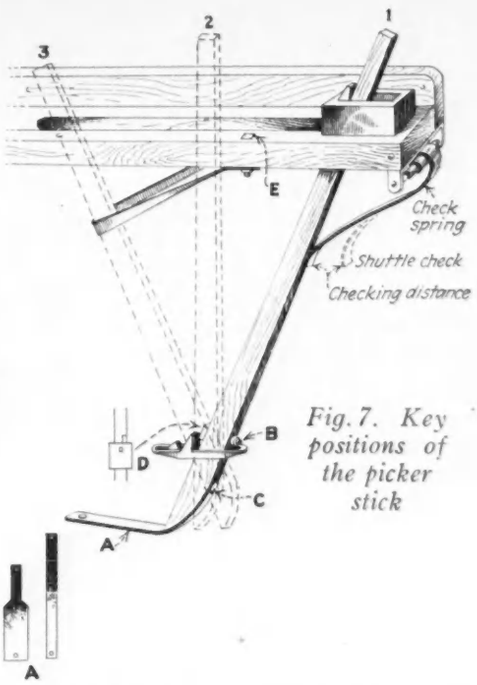


Fig. 7. Key positions of the picker stick

Time and Trouble-Saving Tricks for Adjusting Loom-Pick

By H. E. Wenrich

◆ *This is the second of two articles by Mr. Wenrich on the adjustment of loom picking motions. The first appeared in our issue of July 13, page 24. Although the articles are written from the viewpoint of a silk-weaving expert, they contain many practical and time-saving suggestions of value to loomfixers, overseers, and others who are responsible for the perfect running of looms in all branches of the textile industry.*

IT IS a proved fact that a competent fixer increases the earning power of his section by paying marked attention to the picking motion and by adjusting it in such a manner that it will function properly. A section which needs constant replacements of picker sticks, lug straps, pickers, buffers, etc., indicates that the fixer is not thoroughly familiar with this phase of the loom; and in such a section costs will mount rapidly. Often the saving in power costs alone will more than offset the additional wages paid a first-class fixer as compared with those paid a novice.

There are no two looms in a section which can be adjusted in exactly the same manner. However, if a loom gets out of order, it is often possible to make a near adjustment by setting the disturbed part so that it corresponds to that on an adjacent loom which is working properly. Then, with this adjustment as a basis, a more accurate adjustment can be made.

There is a widespread assumption that the pick is to be used to drive the shuttle across the race plate as quickly as possible. This idea is entirely wrong. The picking motion is, of course, for the purpose of driving the shuttle across the race plate, but not with such rapidity that damage may occur. The shuttle should be driven with just sufficient force to carry it across the raceway without causing a bang-off. The movement of the lay prevents the shuttle from being driven on a straight course, due to the fact that the pick is started at the time that the lay is starting for back center. It enters the box just as the lay is approaching front center. This swinging movement on a fast loom will cause all kinds of trouble if the pick is not adjusted properly.

The accompanying illustrations of two different pick-motion parts used on the 2 x 1 type of box loom will give a fixer the correct setting of this motion for both the plain and box sides. Most looms of today use the parallel motion for the plain side, as shown in Fig. 5. This type illustrates the parallel shoe, the rocker-foot, and the plug which fits into the former. The plug cushions the pick and, when worn out, can be replaced. Older types of loom have a solid parallel foot to which the plug cannot be applied, and this causes the shoe to wear rapidly. Fig. 6 illustrates how a piece of old picker stick may be used to serve the purpose of the plug and parallel tongue combination. A still

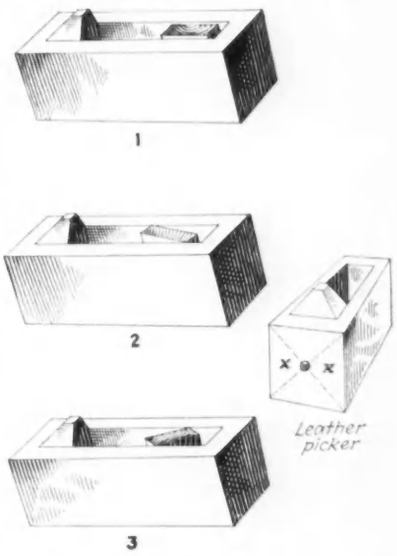


Fig. 8. Bent stick gives improper impulse to shuttle

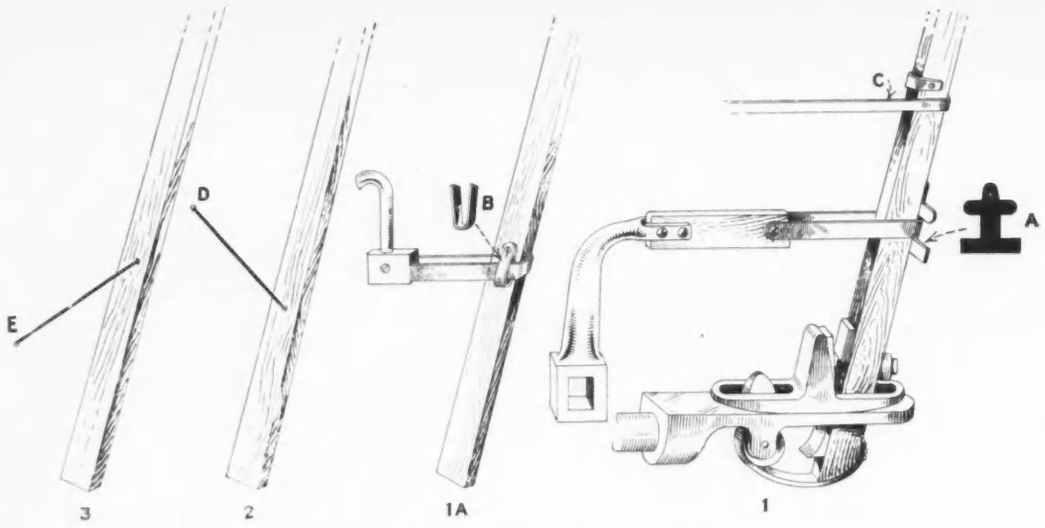


Fig. 9. Lug-strap adjustment

From the same illustration an idea can be had of the manner of checking the shuttle as it is picked from the opposite side of the loom. When the pick has been completed as explained above, the heel strap brings the stick back into place, allowing it to rest against the shuttle check as shown. The dotted lines further explain this action. As the shuttle coming from the opposite side strikes against the picker, the stick having assumed position 1, the force of the blow drives the stick backwards. This action, however, is retarded by the shuttle check, which moves backward along the sweep shown, the check spring softening the blow and bringing the shuttle to a gradual stop, providing the spring tension is correct. The check spring should be well oiled, as sticking shuttle-checks are often the cause of rough cloth and considerable loom banging.

further study of Fig. 6 will give the novice a much better idea of the different parts of which the parallel picker motion consists. An explanation of the lettering follows:

A. This is the same as group *A* in Fig. 5 and consists of the shoe ring, shoe spring, shoe plug, and the square-sided bolt. The spring fits over the plug, which in turn fits into the ring and is fastened by the square-sided bolt to knob *B*.

B. Knob extension cast into the parallel shoe for group *A*.

C. Leather fastened to the shoe spring, group *A*, and to the bottom of the picker stick for the purpose of drawing the latter back to its original position.

D. Screw holding leather *C* to picker sticks.

E. Square-sided bolt inserted through group *A* for the purpose of making adjustments for the proper tension necessary to bring the picker stick back into the required position. (Use only sufficient tension to bring the stick back. Too much tension is harmful.)

F. Picker-stick shoe or parallel tongue. Made from wood in case the parallel shoe is badly worn and the wooden plug cannot be used as shown in Fig. 5.

G. Leather plug inserted between the parallel tongue *F* and the picker stick. About $\frac{1}{8}$ in. thick. (Explained further in another paragraph.)

H. Cap for strap. Also used in place of washer in drawing the bolt tight.

I. Knob which holds rocker foot in proper position. When this knob becomes worn, either the shoe or the knob must be replaced. Should be kept well greased.

The illustration in Fig. 7 shows the action that is required of the picker stick to drive the shuttle across the lay without seriously damaging the working parts of the loom. The picker stick rests against the shuttle check at 1, ready for the pick. As the picking ball comes in contact with the picking shoe and starts toward the point of the shoe, the stick is moved slightly forward, gaining power as the picking ball forces down the point of the shoe. The stick assumes position 2 when the point is down and the ball exactly on top of the latter. However, the force of the blow has been so great that the stick is forced forward into position 3, where it strikes against the check or bumper strap, giving a snappy blow to the shuttle and driving it across the raceway.

Applying Heel Straps

Two methods of applying the heel straps are also shown in Fig. 7. The heel strap *A* is fastened to the shoe spring, group *A* in Fig. 6, at one end, the opposite end being fastened to the picker stick. There are shown here two different types of straps, a long one and another about 2-in. shorter. The long strap is fastened at the top of the parallel rocker foot with *H* the cap for strap, Fig. 6. This method, however, is being discarded in favor of the shorter and wider strap fastened with a screw at *C*, as shown in Fig. 7. This strap can be replaced more quickly when broken, and its width prevents it from slipping to one side of the stick, as is the case with the narrow strap.

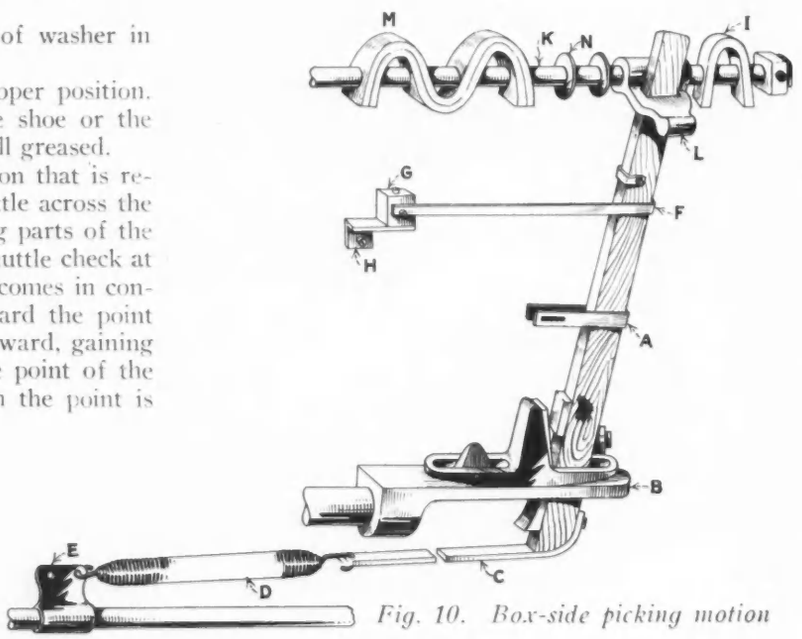


Fig. 10. Box-side picking motion

The trick of fastening a bumper strap illustrated at *E* in Fig. 7 is very useful when quick replacements are desired. A hole is bored down through the box side as shown and countersunk to hold the head of a bolt which is inserted in the hole—the top of the bolt head being flush with the level of the box. In replacing the bumper strap all that is necessary is to unscrew the bolt. In case the strap is too long, a hole can be quickly punched in one end and the strap replaced in a jiffy. Methods formerly employed have involved the use of wood screws inserted through the bottom or side of the box.

Action of the Stick

A picker stick will not give satisfactory service if it is forced to work as shown in Fig. 8 at 2 and 3. The stick should be perfectly true as at 1; but some sticks, although twisted, must be used—otherwise a considerable sum of money would be thrown away every year in the form of damaged sticks. This type of stick can be used by inserting a plug between one side of the stick and the parallel rocker foot, as shown at *D* in Fig. 7. A piece of leather may be used for this purpose.

When picker sticks are twisted, or if the box has not been lined up properly, the picker block will not strike the shuttle squarely, but will contact at *X* (Fig. 8) on either side of center. A small hole to receive the point of the shuttle should be started in the exact center of the leather picker. The center may be located by drawing diagonal lines on the face of the picker.

A very important point to bear in mind is that the stick should never come up to the bumper strap unless picked from position 2. If the stick is picking too far forward, the bumper strap will be continually worn out and broken in the center. If the stick is striking the wooden part of the box, the stick will splinter and soon be made useless. By placing the hand on the box end while the loom is running, one can soon determine if the stick is striking too far forward. Another method of determining this is to turn the lay over by hand and see how far forward the stick travels. The forward stroke of the stick on most looms will average about 9½ in. from position 1 to position 2, and the force of the blow will carry it to position 3, where the stick is retarded and the shuttle driven on across the lay.

Lug-Strap Adjustment

In Fig. 9 the proper adjustment of the lug strap is illustrated. Drawings 1 and 1*A* show two methods of securing the stick to the lug straps, No. 1 being picked by the bottom picking motion while 1*A* is picked by the top picking motion. The proper position for the bracket *A* is shown at 1 and 1*A*. At position 2 the lug strap is attached at too low a point on the stick, and at position 3 the reverse is true. When the lug strap is attached as at 2, the top of the stick is given a spring-like motion, which causes the shuttle to be hard-driven and the cloth to be rough. The position of the lug strap as shown in 3 will result in a "dead pick"; that is, insufficient force will be imparted to the shuttle. This type of set-up also weakens the stick at the point of attachment of the lug strap and will be the cause of increased picker-stick breakage. By all means, try to keep the ideal adjustment shown at 1 and 1*A*.

Fig. 9 also illustrates another type of shuttle check. This is represented by the upper strap in Fig. 1 and is often found to be preferable to that shown at Fig. 7. It may be used on the plain side as well as on the box side of the loom.

In Fig. 10 the box-side picking-stick motion is shown and the method of picking is illustrated. Lug strap *A* has the same adjustment as shown in Fig. 9. The picker stick is fastened at point *B*, and the bolt at this point can be adjusted in or out along the slot in the shoe. This makes it possible to vary the force of the blow imparted to the shuttle. By moving the bolt in toward the loom frame, the stroke is shortened; and when the bolt is moved outward, the sweep will be lengthened.

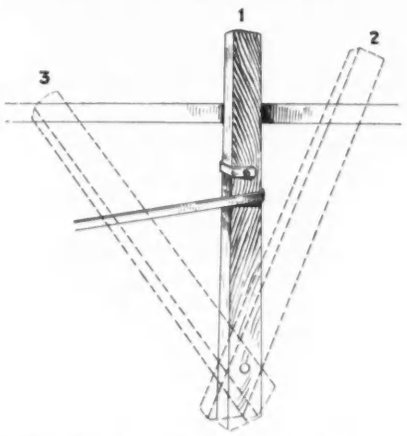


Fig. 11. Key positions of stick on box side

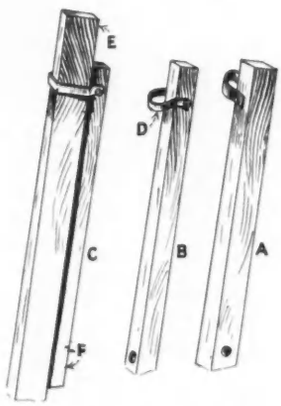


Fig. 12. Method of reinforcing sticks

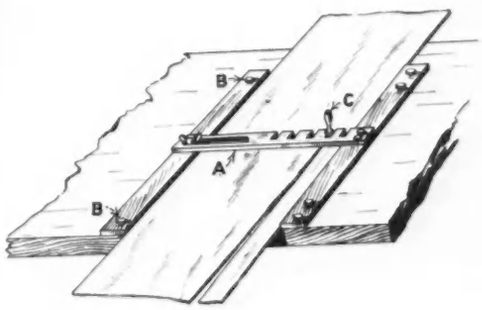


Fig. 13. Handy device for belt-cutting

Heel and Check Straps

C shows the heel strap running under the loom frame. The spring *D*, fastened to casting *E*, which is bolted on the rocker shaft, draws the picker stick back to position. Sufficient tension must be used to pull the stick back to the proper position, but care should be taken that this is not excessive as it will cause an increase in power consumption.

The check strap *F*, one end of which is fastened to the picker stick, is fastened at the opposite end by means of bracket *H* to one of the best shuttle check-motions on the market today. This type of shuttle check is capable of easy adjustment and has the added feature of a spring motion similar to that shown in Group *A*, Fig. 5.

A small bushing of leather as shown at *I* is placed between the rawhide picker *L* and the spindle stand *J*. By cutting the leather to form a buffer as shown, another feature is added to the check of the shuttle. This small buffer also prevents the filling from sloughing off the quills if picked too hard *(Continued on page 71)*

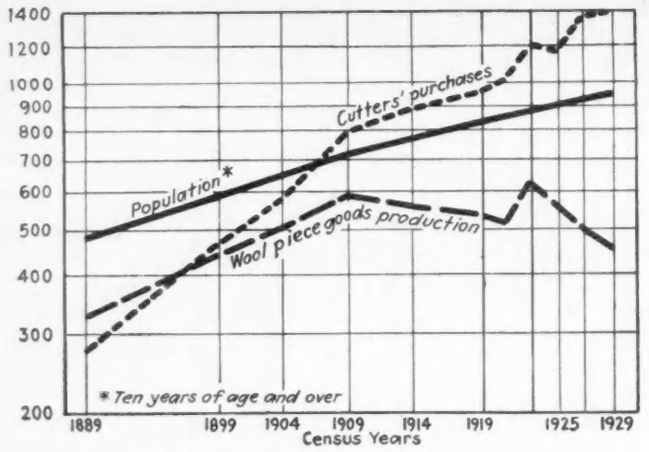


Chart I. Trends in wool piece goods production, cutters' raw material purchases, and population. (Purchases and production in millions of dollars adjusted to 1929 prices; population in hundreds of thousands)

The Long-Run Demand for Wool Piece Goods

◆ *A study of what has happened to the market for woven suitings, dress goods, coatings and overcoatings of wool during the last 40 years, based on reports of the U. S. Census of Manufactures, forms the second release in the wool series undertaken by the Industrial Research Department, Wharton School of Finance & Commerce, University of Pennsylvania. In the abstract of this study, printed below, the summary is first presented and is followed by the body of the report, in part.*

WOOL piece goods are here considered to include only woven suitings, dress goods, coatings, and overcoatings; or what are commonly termed "men's wear and women's wear fabrics." A more optimistic note is heard in this trade today than a year ago. Some see a seller's market in the offing. Whether or not this prospective business can mean more than temporary relief from the pressure of excess capacity will depend chiefly on the long-run trends in wool piece goods sales. To provide further knowledge of these trends is the purpose of this release. Census reports have furnished figures for this 40-year review of the wool piece goods market. The major findings are summarized as follows:

1. The volume of raw materials purchased by cutters has steadily increased during the last 20 years. The decline in wool piece goods consumption can, therefore, hardly be ascribed to a general decline in clothing consumption.
2. Wool piece goods output per adult consumer climbed from $5\frac{3}{4}$ sq.yd. in 1889 to 7 sq.yd. in 1909. There followed a more or less steady drop to a "low" in 1929 of a scant 4 sq.yd. per adult consumer.
3. Dress goods are chiefly responsible for the downturn in wool piece goods output. Wool weavers produced 6.4 sq.yd. of dress goods per female consumer in 1909 as against 1.1 sq.yd. in 1929.
4. The long-run output of *all-wool* suitings is more than keeping up with population growth even to absorbing a good share of the slump in part-cotton suitings.
5. Demand is apparently moving ahead of population in wool coatings and overcoatings. The 1929 output of these goods in square yards per adult consumer was higher than for any pre-war census year, 1889-1909.
6. More light is needed on the behavior of the whole piece goods market. Figures on the piece goods consumption of cutters, by significant fibers and fabrics, would be particularly helpful. Perhaps these figures could be obtained in future Censuses of Manufactures.
7. To the extent that new uses and fabrics cannot be developed in wool piece goods, definite relief from the pressure of excess capacity must be sought in scrapping and machine obsolescence. A highly competitive market in dress goods and a "stable" consumption in suitings hold little hope of more than spasmodic activity for many wool looms now idle. Facts are needed as to how fast the reduction of excess wool loomage is being accomplished and as to what can be expected from piece goods demand. Without such essential information available periodically, both individual and industry planning would seem needlessly handicapped.

Cutters' Purchases and Wool Goods Output

Chart I provides a graphic comparison of the trends in wool piece goods production, cutters' raw material purchases, and population, 1889-1929. While figures are available back to 1849, the undeveloped state of clothing manufacture in the early years makes it advisable to begin our study much later. Moreover, 1889 apparently marked the first census of manufactures to be taken in a more or less scientific manner.

We may notice on Chart I that cutters' purchases expanded much more rapidly than population or wool piece goods production from 1889 to 1909. Probably little of this expansion can be attributed to an actual increase in clothing consumption; rather it reflected the shift from home and custom-made garments to factory-made garments. Further evidence of the relative immaturity of the clothing trades even at this date is seen in the production of wool piece goods exceeding cutters' raw material purchases in 1889. The proportion of wool piece goods passing through retail channels was doubtless much greater in the 80's than today.

Observe what has happened since 1909. Not only the rate but the direction of wool piece goods production changed. This chart omits the war years but that is a

desirable omission since we are interested only in the trend of peace-time demand. Contrast the wool goods situation with the volume of raw materials purchased by cutters. A distinct inward trend obtains here with a rate of growth exceeding population, while wool goods production turned down after 1909 in spite of the upward trend of population.

One conclusion seems evident: The 20-year decline in wool piece goods production cannot be ascribed to a general decline in clothing consumption. Cutters' purchases could not expand greatly unless the consumption of clothing was on the increase, or was shifting to a higher quality material. Probably both these conditions underlie the increase noted in cutters' material purchases. But it seems inconceivable that a shift in quality of goods cut could alone explain why the 1929 purchases of women's wear cutters were almost double those in 1919. If we turn to Chart II, we see that most of the recent rise in total cutters' purchases has been due to the cutters of women's wear—their 1929 purchases were over 900 million dollars as compared with about 470 million dollars in 1919.

Surely our experience with this problem demonstrates the need for yardage figures on the piece goods purchases of the cutting trades—figures which would show separately purchases of cotton fabrics, wool fabrics, and so on. If such information were now available, we could easily determine whether the long-run decline in the production of wool piece goods was due solely to the substitution of other fabrics, or in part to a decline in general piece goods consumption. Present crude facts point to substitution.

As indicated in a preceding paragraph, the two cutting trades have not shared the same fortunes. Reverting again to Chart II, we see that purchases of both men's wear and women's wear cutters described a more rapidly rising trend than population, 1889 to 1909. The explanation given in connection with Chart I for this period also applies here. Factory cutters were gaining business at the expense of dressmaker, custom tailor, and housewife.

After 1909, the purchases of men's wear cutters slowed down while the purchases of women's wear cutters continued to increase out of all proportion to population growth. This probably accounts for much of the slowdown previously noted in wool piece goods production. From 1909 on, cutters of women's wear began substituting other fabrics for wool, and no great advance occurred in the business of men's wear cutters to take up the slack.

What is the significance of the recent failure of men's wear cutters to advance their raw material purchases at a rate similar to population? Does it mean that men are consuming relatively less clothing today than 20 or 30 years ago? Even more importance attaches to the slowdown when we consider that real incomes have enjoyed considerable increase in the past two decades. Men's wear cutters are probably more efficient today in their cutting—thus getting more garments out of the same yardage. Moreover, linings are included in census "raw materials" and so the growing use of quarter linings may account for some decrease in materials purchased.

To the extent that reasons of the sort noted may not account for the decline in materials purchased, there may be some reason for turning to the theory that high prices during and after the war caused men to get more wear out of their old clothes before purchasing new apparel. But why hasn't the more recent popularity of the $22.50 suit resulted in an increase in raw materials purchased? We could answer that dry cleaning and higher quality

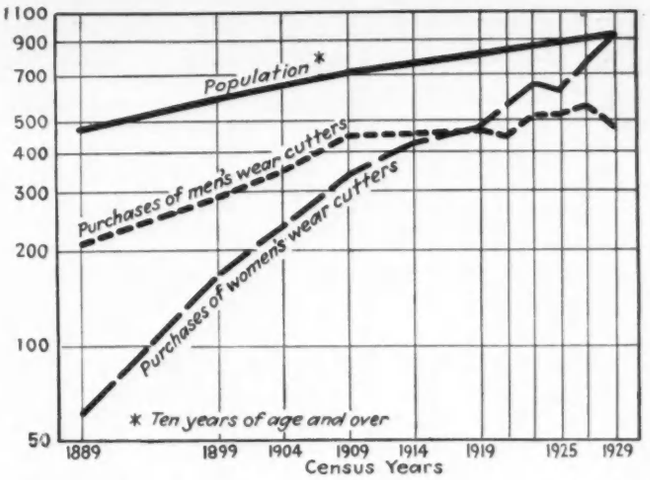


Chart II. Trends in the raw material purchases of men's wear and women's wear cutters, and population. (Purchases in millions of dollars adjusted to 1929 prices; population in hundreds of thousands)

fabrics have permitted longer wear of men's suits and overcoats, even of the $22.50 grades, than would have been possible 20 or 30 years ago.

We haven't definitely answered the question as to whether or not the demand for men's clothing is really lagging behind population growth. Figures on the number of garments cut, or the number of garments sold by retail outlets are needed. Census records carry no information on the total number of garments cut prior to 1927, and no figures exist as to the number of suits or overcoats sold at retail in this country annually. Obviously this latter set of figures, the number of garments sold by retail outlets, holds the key to the whole situation. Given this number over a period of years and the piece goods consumption of the cutters, it should be possible to determine the usual consumption of suits and overcoats in this country, and the probable amount of piece goods needed for their manufacture each year. Planning in men's wear could then have a factual basis.

Total Wool Piece Goods Production

Nearly half the market for wool piece goods has been lost during the last 20 years. On Chart III, Fig. A shows the per capita figures for total wool piece goods output—each bar indicating so many yards of wool piece goods produced per adult. The bars for 1904 and 1909 average about 6¾ sq.yd. If we put it exactly, a loss of 42% has been chalked up against wool piece goods, comparing recent operations with the worsted "hey days" of the 1900's.

The change in trend direction is significant. Piece goods output moved ahead of population from 1889 to 1909—the demand for wool men's wear and women's wear was on the increase. The beginning of current ills got under way shortly after 1909. A declining trend has prevailed since that date, 1929 registering the lowest per adult consumption in eleven censuses covering forty years. This throws considerable doubt on the theory that wool piece goods have been in a temporary slump.

In the downturn just described, part-cotton goods accounted for most of the loss in business. For instance, Fig. B of Chart III shows the production of these goods to have approximated 2½ yd. per capita in 1909 as against ¾ yd. in 1929. This story extends over the whole period, part-cottons having their best year in 1889 only

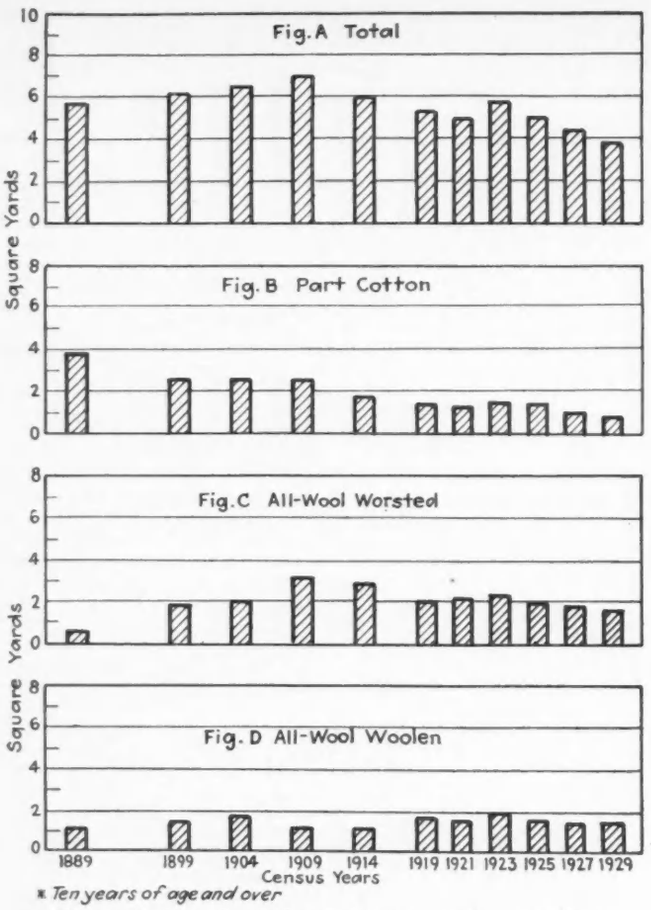


Fig. A Total
Fig. B Part Cotton
Fig. C All-Wool Worsted
Fig. D All-Wool Woolen
Square Yards
1889 1899 1904 1909 1914 1919 1921 1923 1925 1927 1929
Census Years
* Ten years of age and over

Chart 3. Wool suitings, dress goods, coatings, and overcoatings. Per capita production in square yards

to decline more or less steadily in demand throughout the whole of eleven censuses.

Table I provides some relief from chart study. Here are given the per capita figures which have been used in constructing Chart III.

Table II allows more exact study of the changes which have taken place in the output of the three suiting fabrics. It is interesting to note from Table II that even in 1929, the output of part-cottons was only slightly under that of all-wool woolens.

Table III gives the figures in dress goods production.

Table IV assists materially in tracing the production experience in wool coatings and overcoatings production.

In Review

Unless women can be persuaded to substitute cloth coats for fur, and fine wool dresses for cotton, rayon, and silk, there does not seem to be much chance of operating present wool piece goods loomage at "capacity" during this generation. The dress goods market can never again be dominated by wool goods as it was in the 1900's. Competing fibers and novelty-hunting stylists will see to that. Recent improvements in design and styling of wool goods for this trade have demonstrated, however, that the dress goods situation is not "hopeless."

The demand for men's wear exhibits no discouraging tendencies; yet evidence is lacking of any prolonged expansion in store for the future. Rather this demand seems to follow a trend quite similar to population growth in direction and rate. Moreover, the prospects of a slow-down in population growth point eventually to a replacement market.

What is to be done? To merely hold on hoping for demand to return would seem to be a slow way to liquidation. Much can be done to quicken demand by creating new and artistic fabrics. Yet this creative activity can hardly be expected to relieve all the pressure of excess capacity. Barring a sudden style shift to fabrics requiring many more picks per inch, or the immediate development of "new uses", the reduction of present capacity would appear to be the only avenue left. And that we must admit is a slow way when it comes as a by-product of competition. Those firms which have adopted definite scrapping programs are laying the basis for improved conditions, but it is hard to be "philanthropic" in a highly competitive line.

Trade conditions cannot be healthy unless productive facilities are kept in line with market trends. From what is now known, it is impossible to say just how far apart capacity and potential demand may be today. Facts are needed here. Opinions lack impartiality, and are likely to be limited in scope. It behooves the wool piece goods industry to provide itself with machinery for periodically showing what changes are occurring in demand and productive equipment.

TABLE I—WOOL PIECE GOODS PRODUCTION
(Square Yards per Adult)

Census Years	Part Cotton	All-Wool Worsted	All-Wool Woolen	Total
1889	3.9	.6	1.2	5.7
1899	2.7	2.0	1.5	6.2
1904	2.7	2.0	1.8	6.5
1909	2.6	3.2	1.2	7.0
1914	1.9	2.9	1.2	6.0
1919	1.5	2.2	1.7	5.4
1921	1.2	2.2	1.6	5.0
1923	1.5	2.4	2.0	5.9
1925	1.4	2.0	1.7	5.1
1927	1.1	1.9	1.5	4.5
1929	.8	1.7	1.4	3.9

TABLE II—WOOL SUITINGS PRODUCTION
(Square Yards per Adult Male)

Census Years	Part Cotton	All-Wool Worsted	All-Wool Woolen	Total
1889	3.3	.7	1.1	5.1
1899	2.8	1.8	1.2	5.8
1904	2.6	1.8	1.3	5.8
1909	2.6	3.3	1.1	7.0
	*	*	*	*
1929	1.2	2.6	1.3	5.1

* Not reported separately, 1914–1927 censuses.

TABLE III—WOOL DRESS GOODS PRODUCTION
(Square Yards per Adult Female)

Census Years	Part Cotton	All-Wool Worsted	All-Wool Woolen	Total
1889	4.0	.5	1.1	5.6
1899	2.3	2.1	1.2	5.6
1904	2.4	2.1	1.6	6.1
1909	2.4	3.1	.9	6.4
	*	*	*	*
1929	.1	.6	.4	1.1

* Not reported separately, 1914–1927 censuses.

TABLE IV—WOOL COATINGS AND OVERCOATINGS PRODUCTION
(Square Yards per Adult)

Census Years	Part Cotton	All-Wool Worsted	All-Wool Woolen	Total
1889	.2		.1	.2
1899	.2	Negli-	.3	.5
1904	.2	gible	.4	.6
1909	.1		.2	.3
	*		*	*
1929	.2		.6	.8

* Not reported separately, 1914–1927 censuses.

Wool Institute Disbands

for Lack of Support

AS a climax to weeks of fruitless effort to secure the support of the principal interests in the industry, the Wool Institute, Inc., of New York, went out of existence on Friday. The board of directors and the executive committee of the organization held a meeting early in the week and voted to disband the Institute. The step was announced in a letter sent out to members on Tuesday, under the signature of Frederic W. Tipper, chairman of the executive committee.

Mr. Tipper's letter stated that the executive committee and the directors had made "every effort to get the participation of the largest factors, but have been unable to accomplish any results." It was then decided that no course remained open but to dissolve the organization.

The news excited widespread surprise and regret in the industry; while it was known that the Institute had been in difficulties in recent months, it was not believed that these were of an insurmountable nature.

New Association Likely?

Discussing the disbandment of the Institute, wool men in the New York market commented that, while differences of opinion among woolen and worsted firms, make it difficult to harmonize them in an organization so broadly conceived as the Institute, the industry still recognizes the vital importance of cooperation as such.

It was indicated that a new association, composed of selling groups, may be formed. Several leaders in the industry said they thought such an organization was vitally needed. The new body, as these men see it, would have nothing to do with statistics or production, but would be restricted to sales, trade disputes, and various aspects of the selling problem.

The Wool Institute, which was formed under promising auspices more than three years ago, had been without a head since the retirement of A. D. Whiteside, as president, Dec. 31, 1930. Since then the affairs of the Institute have been in joint charge of the board of directors and the executive committee.

An abstract of Mr. Tipper's letter to the members, announcing the dissolution, follows:

"Your executive committee and your board of directors have been making every effort, particularly through some of their members, to get the participation of the largest factors in our industry, financially and actively with the Institute, but have been unable to accomplish any results in this direction.

"We, therefore, have come to the conclusion that no constructive cooperative work can be done in the industry without such memberships, and that there is no other course open but to disband the Institute which it is proposed to do by July 31, 1931.

"We believe that our industry should have an organization of this kind, and it is with great regret that we find it impossible to get the participation of a sufficient percentage of the industry to do any effective work."

Background of Institute

The Wool Institute was formed in January, 1928, as the result of a growing demand in the woolen and worsted industry for an organization that would coordinate all groups and increase the efficiency of the industry through united effort. The step was widely hailed as a constructive one and leaders in the industry were virtually unanimous in pledging their support to the organization. A. D. Whiteside, president of the National Credit Office, was elected president, and in the first months of 1928 the Institute made much progress in promulgating needed improvements in the industry. One of the important early steps was the development of group meetings of spinners; then the Institute turned its attention to the development of new outlets for wool goods and the fixing of uniform dates for openings; comprehensive statistics were developed. The cost manual for wool goods, which was issued by the Institute in the following September, was commended, both at home and in Europe, as a valuable source book for production costs.

The membership grew monthly and by October, 1928, totaled 43,919 looms. At a meeting of the board of directors the following month, it was voted to extend Mr. Whiteside's term of office for two years.

From a publicity standpoint, "The Golden Fleece Pageants," were an outstanding achievement of the organization. The first of these was planned in the fall of 1928 and the pageant was held at the Roosevelt Hotel in March, 1929. This event, which had been planned with great care, drew consumer attention to wool goods as perhaps never before. A second pageant was held the following spring; there was no pageant this year, due to the uncertainty of business conditions.

The energetic program of the Institute won the support of the spinners and, after some consideration, the National Association of Worsted and Woolen Spinners voted late in 1928 to disband, so that members might join the Institute.

In January, 1930 Mr. Whiteside announced that he would retire from the presidency at the expiration of his term Dec. 31. He made several speeches, in which he expressed disappointment with the attitude of certain groups in the industry toward the Institute. In December, 1930 the spinners withdrew from the Institute.

Mr. Whiteside summarized his views of the situation, in an article in TEXTILE WORLD, Feb. 7, last. The article opened with an expression of strong confidence in the future of the industry. As regards cooperation in the industry, however, the retiring president was less optimistic. He wrote:

"Cooperative effort in this industry up to the present time does not, superficially appear to have proved successful."

He added:

"But these efforts, in which a few of the outstanding men of the industry have sincerely and honestly participated, will have a deep and lasting effect, for it may be as a result of these organization meetings that an important number of men of this industry have either changed or modified their viewpoints toward the production or marketing of woolen and worsted piece goods."

Eliminating Difficulties in One-Bath Method *of Hosiery Dyeing*

By William H. Lorimer

AMONG the criticisms of the one-bath method of hosiery dyeing are that the silk is somewhat impaired, that the shades produced are not as fast as those secured by the two-bath method, and that it is difficult to get formulas to check from time to time. By observing suitable precautions, however, the dyer may overcome these and other objections and can avail himself of the numerous advantages of the single-bath process.

Proper choice of materials for boiling-off the hosiery is essential if damage to the silk is to be avoided. There are many types of boil-off oil to be had; and after careful study, the writer selected one containing sulfonated castor oil and borax. This proved to be a most satisfactory combination, in that it works fast, it permits the dyes to exhaust almost as well as in a neutral bath, and it is not injurious to the silk.

Alkalinity of Bath

Tests made of a bath containing this type of boil-off oil showed that after the goods had been running for a few minutes, the liquor had an alkalinity of approximately pH 8.9. Another test made after a 30-min. run showed an alkalinity of about pH 8.4. As the bath accumulates dissolved seracin, the alkalinity drops, the seracin in solution acts as a protective agent for the silk; and a bath can, if necessary, be run for 3 hr. without damage to the goods.

A great deal of stress has been laid on the reduction of certain dyestuffs in the one-bath method. This is particularly true of neutral-dyeing acid blacks. There seems to be a difference of opinion as to the cause of this reduction. The most useful black for the one-bath method is the Sulphon Cyanine type. This type is desirable because of its superior fastness to washing. However, when this black is used in conjunction with certain boil-off oils, a reduction of the color invariably takes place. The writer, however, has never experienced a reduction in color when using a boil-off oil composed of borax and sulfonated castor oil; and he believes, therefore, that the difficulty is probably due to use of products which contain too large amounts of free alkali.

A great deal of care should be exercised in the selection of dyestuffs. All colors should be tested for fastness, degree of exhaustion in boil-off liquor, level-dyeing properties, etc. Formulas formerly employed for the two-bath method usually can be utilized in the single-bath method by adding 10% more neutral-dyeing acid colors, and reducing the direct colors a like amount. In some instances, it may be necessary to add 15% more color, depending upon depth of shade desired. Of course, this rule applies only to dyebath containing an oil similar to the one previously mentioned. Again, with this type of oil, salt may be added to the bath without impairing the finish of the goods.

Some dyers have asserted that shades dyed by the single-bath process are not as fast as those dyed in the two-bath method. This is true only in instances where certain dyes are used; and it is possible to produce shades equally as fast as those dyed in the two-bath method. There is a wide range of direct colors to select from, and most every dyer is familiar with their fastness properties. The writer has used the following colors for dyeing silk: Fast Yellow Silk G. (imported), Fast Silk Brown R (imported), and a black of the Sulphon Cyanine type. These are applied in a long bath. For example, a 50-lb. machine is filled to within 6 in. from the top, and is kept as close to that mark as possible during the dyeing and boiling-off operations.

By employing these colors in the correct proportions it is possible to avoid using a neutral red, except in rare instances, when it is found necessary to add a small amount of shading. With this combination of colors, shades do not change greatly on cooling and appear uniform under different lights.

In some mills it has proved difficult to get formulas to check from time to time, when using the one-bath method. Here again, careful selection of the materials used in boiling off and dyeing is essential. Then too, guesswork as to the quantities employed must be eliminated; the dyestuffs and chemicals should be accurately weighed or measured. The volume of water in the dyebath should be kept constant. If these conditions are observed, it will be found that the formulas will check as accurately as in the two-bath method.

Dyestuffs and chemicals should be accurately measured if best results are to be obtained

Knowing the Facts *Prevents Excessive Power Costs*

By Waldo Hutchinson

POWER ACCOUNT 1

GENERAL POWER EXPENSE

	Year to Date	This Mo.	Last Mo.
Salaries			
Inventory Expense			
Maint. of General Elec. Lines			
" " Steam Lines			
" " Air Lines			
" " Other General Power Equip.			
Proportion Gen'l a/c No. 1			
" " " No. 2			
" " Stores			
" Insurance			
" of Depreciation on Equip.			
" " interest " "			
Total			

DISTRIBUTION BASED ON SERVICE TO DEPARTMENTS

DEPT. 1 _____ % $ _____
2 _____ % $ _____
3 _____ % $ _____
4 _____ % $ _____
5 _____ % $ _____
6 _____ % $ _____
_____
TOTALS _____

Some departments require more attention from the head of the power department than their power use indicates. This distribution is therefore by agreement.

Fig. 1. Simple form of monthly statement for keeping track of the general power expense.

POWER ACCOUNT 2

STEAM COST MONTH OF _____

	AVERAGE UNIT COST TO DATE	THIS MONTH AMOUNT	THIS MONTH UNIT COST	LAST MONTH AMOUNT	LAST MONTH UNIT COST
Labor					
Maint. Boilers					
" Stokers					
" Coal Handling Equip.					
" Ash " "					
" Other Equipment					
" Buildings					
Oils and Waste					
Miscel. Supplies					
Unloading Coal					
Water					
Fuel					
Depreciation on Equip.					
Interest on Equip.					
Totals					

	M. FT STEAM MO.	M. FT STEAM TOTAL	COST MO.	COST TOTAL	PER M.FT MO.	PER M.FT TOTAL
JAN.						
FEB.						
MARCH						
APRIL						
MAY						
JUNE						
JULY						
AUG.						
SEPT.						
OCT.						
NOV.						
DEC.						

DISTRIBUTION BASED ON TESTED STEAM CONSUMPTION

	M. FT. USED	% OF TOTAL	AMOUNT
DEPT 1			
2			
3			
4			
5			
6			
TOTALS			

Fig. 2. Actual cost of steam consists of an assemblage of the cost of fuel, water, labor, maintenance, and fixed charges.

POWER ACCOUNT 3

STEAM ELECTRIC COST MONTH OF _____

	AVERAGE UNIT COST TO DATE	THIS MONTH AMOUNT	THIS MONTH UNIT COST	LAST MONTH AMOUNT	LAST MONTH UNIT COST
Labor					
Maint. Engines					
" Generators					
" Switchboards					
" Other Elec. Appar.					
" Buildings					
Lubr. Oils and Waste					
Miscel. Supplies					
Steam Consumed					
Depreciation on Equip.					
Interest on Equip.					
Liability Insurance					
Total					
Credit for Exhaust Steam					
Net Cost.					

	K.W. HRS. MO.	K.W. HRS. TOTAL	COST MO.	COST TOTAL	COST PER K.W. HR MO.	COST PER K.W. HR AVERAGE
JAN.						
FEB.						
MARCH						
APRIL						
MAY						
JUNE						
JULY						
AUG.						
SEPT.						
OCT.						
NOV.						
DEC.						

Fig. 3. On this cost sheet, both plant-generated and purchased electric power are brought together.

POWER ACCOUNT 4

TOTAL ELECTRIC POWER COST MONTH OF _____

Month	K.W. HRS MO.	K.W. HRS TOTAL	COST MO.	COST TOTAL	COST PER K.W. HR MO.	COST PER K.W. HR TOTAL
JAN.						
FEB.						
MAR.						
APRIL						
MAY						
JUNE						
JULY						
AUG.						
SEPT.						
OCT.						
NOV.						
DEC.						

		K.W. HRS USED	% OF TOTAL	AMOUNT
DISTRIBUTION BASED ON METERED CONSUMPTION	DEPT. 1			
	2			
	3			
	4			
	5			
	6			
	TOTALS			

Fig. 4. This cost sheet for plant-generated electric power is readily adapted to oil or gas engine, as well as to turbine or reciprocating steam. A similar chart is used for recording the cost of purchased power.

THE day of considering power cost as a necessary evil and thereby neglecting to analyze and curb it is past. While it is perfectly possible to make a complicated and technical job out of the operation of figuring power costs, all practical purposes are well served by methods which are comparatively simple, but which are comprehensive enough to give data from which the costs of power may be known and its uses checked.

In dealing with the problem it is far from sufficient to know what steam costs at the power house as there are many leaks, line losses, and wastes, besides the actual uses for which steam is generated. Steam, electricity, and compressed air are all subject to transmission losses, and to waste in use. Water and gases of all kinds also are subject to waste, but their line losses are, of course, less than with direct-power items.

A simple series of forms, however, such as are presented herewith, will serve, in the majority of cases, as a mechanism or framework for the construction of power costs. The forms with their captions are self-explanatory and will give the executive a fairly definite knowledge of not only what power is costing as a whole, but where the money is spent. When one knows these facts, and not before, he is in position to begin an intelligent and profitable campaign to save a large part of the good money that is now "going up in smoke" because of wasteful methods and equipment.

Three Methods of Testing Yarn Strength *Compared*

By Franz E. Baker, B. T. E.

THE strength of yarns is commonly obtained by one of three methods. In an attempt to determine the relative merits of these methods the author has made 50 comparative tests on each system.

The first method is the conventional skein test, in which 120 yd. of yarn is reeled on a 1½-yd. cotton reel and broken upon the spools of a yarn tester. As far as possible ends are laid parallel on the spools and a jaw speed of 12 in. per minute is maintained.

The second method is known as the serigraph or multi-strand test. In this test a mechanism is used by means of which any number of strands can be laid parallel and then broken. In the tests made by the author 100 strands 2 in. long were subjected to strain. In other words, the jaws of the tester were set 2 in. apart and the mechanism shown in the accompanying diagram was clamped between them. The speed of the machine was 12 in. per minute.

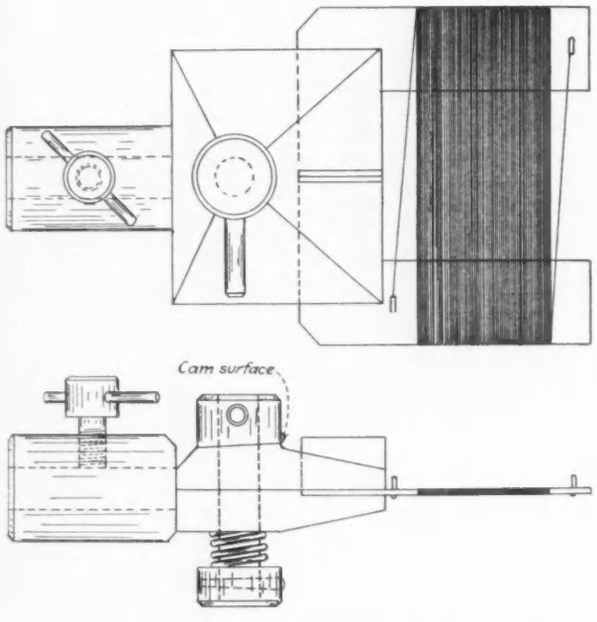


Diagram of serigraph or multi-strand tester

TABLE I

	SKEIN TEST		SERIGRAPH TEST		SINGLE STRAND TEST	
No.	Break in Pounds	Deviation from Average	Break in Pounds	Deviation from Average	Break in Pounds	Deviation from Average
1	48	.8	47	1.3	.656	.216
2	45	3.8	49	.7	.446	.006
3	51	2.2	45	3.3	.340	.100
4	48	.8	48	.3	.349	.091
5	53	4.2	47	1.3	.436	.004
6	52	3.2	47	1.3	.425	.015
7	51	2.2	46	2.3	.450	.010
8	46	2.8	47	1.3	.450	.010
9	53	4.2	46	2.3	.352	.088
10	46	2.8	46	2.3	.371	.069
11	51	2.2	45	3.3	.555	.115
12	47	1.8	47	1.3	.328	.112
13	56	7.2	47	1.3	.514	.074
14	53	4.2	52	3.7	.505	.165
15	50	1.2	48	.3	.503	.063
16	41	7.8	46	2.3	.481	.041
17	46	2.8	45	3.3	.415	.025
18	49	.2	48	.3	.516	.176
19	50	1.2	47	1.3	.374	.066
20	45	3.8	50	1.7	.432	.008
21	48	.8	47	1.3	.425	.015
22	52	3.2	52	3.7	.465	.025
23	54	5.2	45	3.3	.401	.039
24	57	8.2	50	1.7	.402	.038
25	46	2.8	47	1.3	.409	.031
26	47	1.8	51	2.7	.426	.014
27	46	2.8	45	3.3	.386	.054
28	50	1.2	49	.7	.376	.064
29	50	1.2	47	1.3	.438	.002
30	52	3.2	50	1.7	.415	.025
31	48	.8	46	2.3	.455	.015
32	46	2.8	53	4.7	.510	.070
33	46	2.8	46	2.3	.446	.006
34	46	2.8	53	4.7	.515	.075
35	46	2.8	45	2.3	.457	.017
36	47	1.8	54	5.7	.555	.115
37	50	1.2	47	1.3	.438	.002
38	53	4.7	53	4.7	.352	.088
39	46	2.8	48	.7	.475	.035
40	41	7.8	54	5.7	.450	.010
41	45	3.8	45	3.3	.475	.035
42	49	.2	46	2.3	.433	.007
43	43	5.8	47	1.3	.432	.008
44	45	3.8	50	1.7	.437	.003
45	52	3.2	47	1.3	.505	.065
46	52	3.2	52	3.7	.340	.100
47	53	4.2	45	3.3	.475	.035
48	51	2.2	51	1.7	.406	.034
49	50	1.2	53	1.7	.369	.071
50	47	1.8	56	7.7	.425	.015
Avg.	48.8	2.53	48.3	2.23	.440	.0536

The third method is the single-strand test. This test was made on a hydraulic tester. A distance of 250 mm. (approximately 10 in.) between jaws was maintained. A speed of 12 in. per minute of the moving jaw was used; and, in order to secure an even tension, a 10-gram weight was suspended from each strand.

Some of the recognized advantages and disadvantages of each system might well be given. The skein test, without doubt, is the easiest system to use. It is very handy when sizings are to be made in conjunction with the break tests. It is also a fairly rapid method of testing. Again, where the yarn is to be conditioned, it is very convenient to reel the skeins and hang them on racks to condition.

Serigraph Method

The serigraph test is a fairly new method of testing and is used more especially on rayon yarns. It was invented to approach more nearly the condition of the yarn in the warp or filling of a fabric. In other words, a number of parallel strands are broken at the same time, as in the strip test on fabrics. The breaking strength obtained by the serigraph test comes remarkably near the strength of a single strand multiplied by the number of strands broken. Another advantage of the serigraph test is the reduction of waste over that of the skein test. One disadvantage is that the weighings for sizing have to be made as a separate operation. It is thought that with practice this method can be carried out

as rapidly as the skein test, especially since it requires less time for the machine to complete the break—nearly all the strands breaking simultaneously.

Theoretically, the single-strand test is ideal, since it brings out the weak places in the yarn. It does, however, require a great many more tests to obtain the same accuracy as in the other two methods, since the variation is so great. Unless the yarn is to be used for something where it is not to be supported by other strands, this test is not important. In some branches of the textile trade the single-strand test is used extensively; e.g., the tire-cord industry. Here again the size weighings have to be made independently of the break tests. As for speed, this test is probably the least rapid of the three methods.

In these tests a 36s cotton yarn spun from cotton of $1\frac{1}{16}$-in. staple was used. In the skein tests 120-yd. skeins were used, which means that 160 strands were subjected to strain. In the serigraph test 100 parallel strands were broken. The figures in Table I represent the breaking strengths in pounds, their averages, the deviations from the average, and the average deviations for 50 tests.

The average deviation is an indication of the uniformity of the strength of the yarn. Therefore the comparison of the percent deviation indicates the relative uniformity of the different *(Continued on page 66)*

◆

Simple Precautions Assure Correct Alignment of Pulleys

By W. F. Schaphorst, M.E.

THE fact that a belt stays on pulleys is not proof that the pulleys are accurately aligned. A tight belt on crowned pulleys will offset considerable misalignment; the belt will stay on and the drive will look all right. It is better practice to align the pulleys accurately. Then the belt need not be so tight; and it will pull better, operate more efficiently, and last longer.

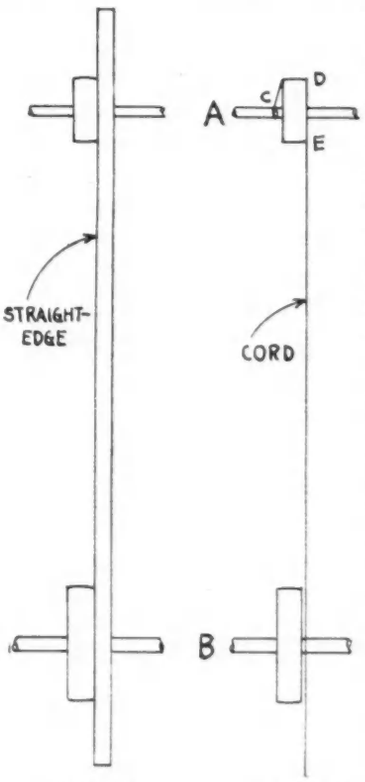
The accompanying sketch shows two methods of aligning pulleys, one, which is commonly used, is labeled "Wrong." A long slender pole or board is employed as a straight-edge in the manner illustrated. This method is satisfactory, provided the straight-edge is really straight; but nine times out of ten these straight-edges are not straight. They may have every appearance of being straight, and yet they are crooked. Sometimes they are straight when lying on the floor; but when lifted and supported at one end, they deflect more or less and may become inaccurate and undependable. Therefore do not use a long slender pole, stick, or board as a straight-edge for aligning pulleys.

The pulleys marked "Wrong" have every appearance of being in perfect alignment. But they are not in line. Check it up, and you will find that the straight-edge is crooked.

Another method too commonly employed in installing machinery is simply to sight across from pulley to pulley, place the machine at approximately the desired spot, and then shift the machine by the cut-and-try method until the belt stays on the pulleys.

A method which assures true alignment is labeled "Right." Here a cord is employed. A cord is convenient, being readily carried around in one's pocket and is available almost anywhere on a moment's notice. When pulled taut, a cord is always perfectly straight with respect to a vertical plane. A cord does not warp.

If you have two parallel shafts, *A* and *B*, and wish to align the pulleys on them, tie the cord to shaft *A* as at *C*, hitch it around the pulley so that the cord makes contact at the two points *D* and *E*. When just touching *E*, the cord is an accurate gage for locating the pulley on shaft *B*. As indicated here, the pulley on shaft *B* will have to be moved to the right, or the pulley on shaft *A* will have to be moved toward the left to secure proper alignment.



Sketch showing right and wrong method of aligning pulleys

A thing to guard against in aligning pulleys is pulley wabble. It is obvious that if the pulley on shaft *A* is not on the square, the cord may not be exactly at right angles with the shaft. Therefore it is always advisable to rotate the pulley and try the cord in several positions. If the pulley wabbles, the cord will indicate various locations for the pulley on shaft *B*. In that event the mean position is the correct position on shaft *B*. That is, locate the pulley at a point midway between the two extremes.

Of course, you must make certain that the shafts are parallel. If they are not parallel, make them so; otherwise the precautions outlined will be of no avail.

Frank D. Cheney Declares

Advice to Silk Consumers

Misleading

IN a recent letter to The Consumers' Research, Inc., New York, Frank D. Cheney, general sales manager of Cheney Bros., South Manchester, Conn., takes exception to several statements contained in the new edition of "Handbook of Buying," published by the research organization. Mr. Cheney's letter follows:

The Consumers' Research, Inc.
340 West 23rd Street,
New York City.
Dear Sirs:

In your "Handbook of Buying," issued in slightly revised form in March, 1931, you have a section devoted to silks. In the information furnished under this heading we have found several errors which in our opinion are unfair to the silk industry as a whole and to ourselves in particular. We are calling them to your attention knowing that it is your desire to present to your readers only facts which are accurate and reliable. We hope that you will be disposed in future issues to correct these errors in accordance with the facts.

Water-Spotting

In the second paragraph of the remarks on page 17, under "Textiles and Clothing—Silks," you state that "with the public's discovery of excess weighting as a factor in causing depreciation in silk goods and garments, the silk trade attempted to substitute the 'soluble' weightings for a portion of the insoluble tin otherwise used, which brings a new difficulty, extreme sensitivity to water-spotting, so that a dye may have its tint or luster permanently altered by a single drop of water."

While the results upon the luster are as stated by you, we wish to call to your attention the fact that in our opinion it is not due to the appearance of "soluble" weighting in the fabric, but to the fact that most of the fabrics which are in vogue today are made with crepe-twisted yarns. It is the tendency of the crepe yarns to shrink when they become wet, which creates a different degree of luster from that which is found in the surrounding areas where wetting has not taken place and where consequently this shrinkage has not occurred. Therefore the water spotting is not caused by the appearance of soluble weighting, but is caused by the very character of the goods themselves; in fact, pure-silk crepes containing no metallic weighting or soluble finishing material of any kind will water-spot. In other words, this tendency is characteristic of crepe fabrics, just as the tendency to shrink is characteristic of woolen fabrics.

Weighting to Replace Gum

The opinion expressed in the third paragraph is, we regret to say, absolutely incorrect and misleading. The beginning of this paragraph reads as follows: "It is usually possible to procure 'pure-dye silk' in the best department stores. This means that sufficient weighting has been added to replace gum removed in boiling, usually about 20-25%, so that even so-called unweighted silk actually has considerable weighting added. No fixed amount of weighting is indicated by the term 'unweighted,' as the amount of gum varies in different silks."

"Pure-dye silk" is, and always has been, understood to mean that the silk contains no metallic weighting whatever, and a fabric which has received sufficient weighting to replace the amount of gum removed in boiling off should not under any circumstances be termed "pure-dye silk." It is true that it is not an uncommon practice to add sizing or finishing materials to the silk during the finishing operation for the same reason that a laundress adds starch to garments, but this has never been considered an adulterant and is merely added as starch is added to improve the luster, draping quality, and touch of the fabric.

Fabrics have been sold during the past season under the designation "par-weighted," and this term has been used to describe the process set forth in the third paragraph; that is, "par weight" has been considered to mean the weight which replaces the amount of gum removed in boiling, but this should never under any circumstances be confused with "pure dye."

"Pure Dye" in Selvage

In the fourth paragraph you say that silks of fine quality are likely to have the words "pure dye" woven into the selvage somewhere in the bolt. This statement is very likely to be interpreted by your readers to mean that fabrics which do not have "pure dye" woven into the selvage are not pure dye, which is very far from being the case. We are sure there are many more pure-dye silks which do not have that statement woven into the label than those which do have it.

In the same paragraph you state that the following New York stores can supply pure-dye silks: Lord & Taylor, R. H. Macy & Co., and B. Altman. This, in our opinion, is very unfair to other dealers in silks, as there are many department stores throughout the United States which are selling pure-dye silks, as well as many smaller silk and specialty stores.

The reference to lead weighting in the sixth paragraph is misleading and may easily be unduly alarming to your readers. This process has been condemned by various boards of health and is not today, so far as we are aware, used by any reputable manufacturer.

In your recommended list of fabrics you mention Cheney Frostkrepe and say you believe it to be pure dye. It is true that our Frostkrepe is pure dye, but so are practically all of the other piece-dyed fabrics which we make; for example, Mirrokrepe, Fawnkrepe, Andante, Barcarolle, Nuancia

In your recommended list of rayons you include Cheney's rayons. Whereas we do use rayon in making a few of our fabrics, we do not make rayon as such, nor do we offer it for sale as such. There is no such thing as Cheney rayon for sale.

We believe that such misleading statements as we have pointed out above will prove harmful to the silk industry and may seriously endanger silk as a dependable article of wearing apparel. We should be very glad indeed to cooperate with you most frankly and freely in preparing such information in the future should you desire us to do so.

Yours very truly,
FRANK D. CHENEY.

Wool Industry
Has Definitely Turned Corner

From TEXTILE WORLD'S *New England Office*

BY THIS time there can be no question that the wool industry has turned the proverbial corner. Consumption of raw wool has been running about 13% above 1930 and is currently above the seasonal average for the last ten years. Better than any dry statistics, however, are the reports picked up, in traveling about, of this mill or that one running full days or running full days and nights.

The bulk of activity has been in the worsted division, although woolen mills have not been doing badly and the situation looks promising in this branch for more extensive operations, particularly in women's wear. Back of the spurt is the fact that all of us have been postponing the purchase of new clothing until the wardrobe assumed an empty or dilapidated appearance and purchases could no longer be postponed. From retailer back to manufacturer stocks were bare, and active consumer demand started all the gears.

With retailers calling upon cutters for needed merchandise and cutters calling upon manufacturers for materials, many of the latter have stated that their problem, the last few months, has been how to make deliveries. Quite a number of manufacturers, particularly in the worsted division, state that they are sold up into September or October, which may not have been startling in the old days, but which certainly represents material improvement over the day to day basis which has been in effect for almost two years.

Unfortunately, the profit phase is not so bright. Prices undoubtedly have not been satisfactory. The hang-over of depression psychology has been in evidence and the combination of a group of buyers accustomed to having their own way, and a group of manufacturers accustomed never to having their own way, has been too much to permit the advance in prices warranted by the volume of business. Apparently, it takes manufacturers some time to realize when they are in the saddle, and to disregard the usual attitude of the buyer.

As an indication of the condition of worsted manufacturing the activity of combs is a good barometer. During May, the last month for which official figures are available, worsted combs operated at 96% of single-shift capacity, as compared with a long-time average of around 80%. As there are still some obsolete units reporting, which cannot be expected to operate under post-war normal conditions, this figure represents full capacity for the industry—a fact borne out by reports from every combing mill approached that they have been running full and overtime.

One of the bugbears of the woolen and worsted industry is seasonal operation. The swing of activity is very much in evidence and, under this circumstance, the amount of machinery in place, taking the combing industry as a specific illustration, must be such as will take care of the maximum demand. Naturally, this means slack operation in off-season with resultant dissatisfaction. The most hopeful sign in this direction was furnished by one manufacturer who stated a while ago "I am running slack now, but there is no use in my cutting prices because the business is seasonally slow and, if I cut prices, I will have a tough time getting them up when business is good." One manufacturer does not make the market, but it is encouraging to find many others who agree with this view.

Less than a year ago, A. D. Whiteside, then president of the Wool Institute, stated that the number of looms in place had been cut from around 60,000 to about 43,000, and predicted that the latter figure was not far out of line with what should be considered the normal for the industry. Taking into consideration the evidence that wool fabrics have been meeting with a sub-normal fashion demand, for the last few years, the outlook is encouraging. Some seasonal recession from the present rate of worsted manufacture may be expected, but, taken as a whole, the wool industry, which includes both woolens and worsteds, is in a fair way to prosperous operation. The imminence of prosperous operation, however, depends to a large extent upon the abandonment of a highly individualistic attitude and the substitution of enlightened industry thinking.

The demand for men's wear worsted suitings has stimulated the demand for worsteds; women's wear woolens are on the ascendant; the switch of several automobile manufacturers from pile fabrics to such fabrics as Bedford cords has created a rising curve in the wool industry; prices for wools have strengthened following a large buying movement in late June which has carried over—will the industry take advantage of the situation to secure more adequate profits?

Questions... *and* Answers

Warp Threads Slip in Tape

Technical Editor:

We are manufacturing a rubberized tape, using a 38-in., 112x56, 2.73 coutil, which is about the best fabric we have been able to find for this work. We coat the cloth in the full width and then cut it into narrow strips according to the width of tape desired. It is cut in a straight line, and not on the bias. The trouble that we are having is that the warp threads fray or pull out when the cloth is cut into narrow strips. We have written several coutil manufacturers regarding this, but it seems that they are unable to do anything to eliminate this condition. If you can furnish any assistance, we shall be pleased to hear from you. (7615)

There is no way of preventing the ends from slipping on any kind of cloth or weave when cut into narrow strips, either straight or on the bias, unless a leno tie is woven on both sides of the strip. It is common practice to use a leno tie on all fabrics, no matter what type of weave, when the cloth has to be cut into narrow strips, unless the cloth to be cut is of a low sley, such as cotton bandage-gauze. The denser the sley of the cloth to be cut, the greater the tendency for the warp ends to slip on the sides.

It would not increase the cost of weaving such a cloth very materially if a leno tie were introduced on each side of the strip to be cut, and it would certainly make the cutting of the narrow strips a much easier operation. There are a variety of ways to introduce a leno tie on such a cloth; and, if given the width of the strips to be cut, we should be pleased to describe an inexpensive method of tying in the sides of the strips during weaving so that the warp ends would not slip.

▼

Twisting Worsted and Silk

Technical Editor:

I wish to learn how to make a fancy twist of 2/50s worsted and organzine silk, using top rolls to feed the silk to the worsted. How should I figure the percentage? How too can I insure even twist? (7620)

The percentage of silk required will be dependent upon both the size of the silk and the effect desired in the fancy twist. Both these factors are omitted in the inquiry.

Naturally the silk will be much finer than the worsted. If both yarns were delivered at the same rate, the effect produced would depend upon (*a*) the relative sizes of the silk and worsted, (*b*) the direction of the twist, and (*c*) the turns per inch in each.

By proper regulation of *a*, *b*, and *c*, the worsted yarn can form a corkscrew or spiral effect around the silk. The same effect can be obtained with the silk forming the spiral about the worsted.

If the direction of twist in the fancy twist is the same as that in the worsted and opposite to that in the silk, the worsted will contract rapidly while the silk may do the opposite. The final effect will depend upon conditions. Generally the silk forms a spiral around the worsted.

When the direction of twist is the same in both yarns, it will be necessary to deliver the silk at a more rapid rate than the worsted. The rate of delivery for each must be determined by experiment. When a fancy twister, with two lines of independent delivery rolls, is available, there is no difficulty experienced.

When the desired effect has been produced, the yarn must be analyzed. (1) Find the resultant count of the twisted yarn. (2) Select a suitable length (30 or 36 in.), and carefully weigh it. (3) Unravel the length weighed in step 2, and both measure and weigh the silk and the worsted. (4) Calculate the percentage of silk and the percentage of worsted. Base the calculation upon the known sizes of the yarns and upon the respective lengths obtained in step 3.

To find the worsted count equivalent of denier silk, divide 7956 by the denier.

Suppose that a 2/50s worsted yarn is being twisted with a silk equal to a 159s worsted count. When 36 in. of the twisted yarn is unraveled, there is found to be 36 in. of worsted and 43.2 in. of silk. What is the resultant worsted count, and what percentages of each will be required?

$$\text{Silk } \frac{159 \times 36}{43.2} = 132.5$$

Allowing for the excess delivery, the 159s silk is really equal to a 132.5s worsted. Resultant count:

$$\frac{1}{25} + \frac{1}{132.5} = \frac{53 + 10}{1325} = \frac{63}{1325}$$

$$\frac{1325}{63} = 21.03\text{s worsted count}$$

Percentages of silk and worsted:

53 lb. of worsted	= 84.1%
10 lb. of silk	= 15.9%
63 lb. of twist	= 100%

Another method of calculating percentages for novelty yarns was published in the Jan. 3, 1931, issue of TEXTILE WORLD, page 55.

The evenness of the twist is dependent upon the evenness of the component yarns, upon the positive control of delivery, and upon the evenness of the twist in the component yarns.

▼

Uneven Dyeing of French-Spun Yarn

Technical Editor:

The enclosed scoured skein is a 2/40 French-Spun yarn. We are encountering trouble in getting this yarn to take the dye evenly and should be glad to receive your opinion as to the best method of scouring this material.

Our water in this city is unusually hard and necessitates the use of a water softener, and we rather suspect that the supply of soft water it yields as being very inconsistent. (7609)

The meager information supplied with this inquiry and the fact that no sample of the dyed yarn having the defect was sent for examination, makes it impossible to give an entirely satisfactory reply. It is probable, however, that the unevenness comes from either residual soap or from "sun bleaching" of the yarn previous to dyeing. Unevenness due to the latter cause would show up in a very definite way in the skeins, just where the sun hit the particular part of the bundle of yarn.

As a rule, French-spun yarn requires very little scouring to eliminate any grease or oil. If soft water is available, a bath containing 1 to 2 oz. of soap should be strong enough, using the solution only after the soap has been thoroughly dissolved. There should also be some alkali added to the scouring solution, say about 1 oz. of soda ash.

We believe that the best course for you to pursue is to have a competent chemist in your vicinity analyze the water you are using and test a sample of the yarn for residual soap. If it is found that hard water is the cause of your difficulty it will be necessary for you to correct this condition.

Weaving Hard-Twist Warps Without Temples

Technical Editor:

The inquirer once saw georgette run successfully without the use of temples and unfortunately did not investigate how this was accomplished. He would greatly appreciate it if you would advise him how this was done. (7594)

The outstanding reason for the use of temples in the weaving of georgette, chiffon, and other like constructions is the necessity for holding the edges out to as full width as possible in order that the tendency of the shuttle tension to pull in the edges of the cloth will not result in the weaving of a narrower fabric than desired. Another purpose is to diminish the damage resulting from the tendency of the hard twist to cut the reeds and thereby cause a badly woven edge. Though hard-twist warps can be woven without the use of temples, the use of these devices—either the ring type or roll type—is strongly advised.

In constructing warps for weaving without the use of temples, an edge which is easy on the reeds is generally employed. This edge is placed on the warping machine in the same way that the remainder of the warp is applied; but from $\frac{1}{8}$ to $\frac{1}{2}$ in. of the width is made from two- or three-thread organzine boiled out (this can be done by any dyer), resulting in a soft thread. The reed is provided with hard-tempered edges where the edge of the warp passes through. The filling tension should come straight out through the shuttle and be so light that the pull will be hardly noticed. This releases the drag on the edges and avoids any cutting of the reed wires by a sharp pull of the edge.

In weaving without temples, utmost care must be taken when ripping back for defects; otherwise the weaver will have difficulty in starting up after a rip out. Block the reeds as high as possible; and when a cut is noticed on the reed, lower it a mere trifle in the reed bed in order that a new spot will bear the pressure.

▼

Cracks in Rayon Crepe

Technical Editor:

We are enclosing a sample of rayon crepe showing cracks warpwise. These cracks are prevalent throughout the entire piece. We have found this defect in pieces woven from various warps. Upon examination you will note that the crack does not run in straight lines, but tends to run in various degrees of curvature. We should be pleased to have your opinion as to whether these cracks are caused by the dyer or if they are caused by unevenness in the sizing in warp tension. (7608)

We have examined the sample of all-rayon crepe showing cracks running warpwise. This is a common trouble encountered in the finishing of rayon crepe. The defect is due to the warp sizing becoming cracked or broken by creasing the goods before the start of the actual finishing operations. When the goods are wet out, the crepe twist in the filling will first take up moisture at the points where the cracks are and produce the results as shown in the sample submitted. On this type of crepe, more even results can be obtained by passing the cloth from the tube as received from the gray mill directly into the wetting-out solution at full width.

▼

Standardization of Hosiery Boxes

Technical Editor:

In going through your July 4 issue, I noticed an article written by John Russell, page 46, entitled "Effect of Box Sizes on Hoisery Packing Costs." I notice that he stresses the importance of box-size standardization, and I wish to call his attention to Technologic Paper No. 253 on Standardization of Hosiery Box Dimensions, published in March, 1924. E. M. SCHENKE,
Research Associate,
National Association of Hosiery and Underwear Manufacturers, Bureau of Standards.

We are indebted to Mr. Schenke for reminding us of the able investigation which he helped to conduct on the dimensions of hosiery boxes. The results of that investigation and the dimensions proposed were published in our issues of Aug. 18 and 25, 1923.

▼

Color Change in Full-Fashioned Hosiery

Technical Editor:

We are inclosing a full fashioned stocking which has a noticeable color change at the topper line. We shall appreciate your opinion as to the cause of this fault. (7636)

An examination of the sample submitted shows that the cotton top is dyed considerably bluer than the silk part of the stocking. If you had informed us what colors were used in the dyeing of this shade, it would be easier to advise what changes to make in the formula in order to produce a better match between the silk and the cotton.

Inquiries should give the fullest information possible; and if damaged material is involved, a sample should be sent. We give no consideration to anonymous inquiries and do not undertake routine analysis of yarn or fabric, or investigation involving unusual expense.

Assuming that the silk is matched to the pattern, the cotton should have more brown or orange of a type which will not affect the silk. If the dyeing is done in a soap bath, a few grams of a red dyeing catechine or orange which leaves silk unstained should be added to the formula. This would subdue the gray without increasing the depth of the shade, and a more even match could be obtained. On the other hand, if the color on the cotton matches the pattern, and the silk is off shade, the silk could be toned to match it with Alphazurine, or a similar dyestuff.

Matching shades on cotton-and-silk hosiery is not difficult, once the properties of the dyestuffs are understood and method of application is properly mastered. Additions to dyebath to improve the matching of the silk can be made in the original bath. For matching cotton, however, it is hazardous to add dyestuffs to the bath. Many of the cotton colors dye unevenly in a salted bath; and any additions should be made in a fresh bath free from salt.

▼

Blotch Marks on Half Hose

Technical Editor:

We are enclosing three half hose manufactured from rayon plated over Acele, with mercerized toe, heel, and top. You will find on these stockings blotch marks which appear during or after boarding. These stockings are dyed in an olive-oil soap bath to keep the acetate dyestuff in suspension, and at least twelve stockings are boarded out of each lot in the dyehouse. We cannot detect this condition after boarding in the dyehouse. We shall appreciate your opinion as to what is causing this condition. (7622)

It is rather difficult to place responsibility for this defect, but we can state that the blotches are simple discolorations caused either by the type of dyestuff employed or by the goods while in the wet state coming in contact with dirty equipment, such as trucks, the extractor basket, or the trough around hosiery forms.

We are rather inclined to the opinion that the difficulty is due to the type of dyestuff employed, and that the trouble is caused by insufficient washing of the goods after dyeing and permitting them to lie around too long a time after being lifted from the dyeing machine and before extracting. This procedure frequently results in circles or blotches.

We tested the spots for oil or grease, but did not find any appreciable quantity present. We then washed the worst stocking for about 5 min. in a 10% solution of olive-oil soap at 140° F. The brown dyestuff bled profusely, indicating that goods had not been well washed after dyeing, and also indicating that the dyestuff employed is so fugitive that it will not stand even an ordinary washing test. This test strengthened our belief that the blotches are caused by use of improper dyestuffs. We found that the blotch was entirely removed by the washing treatment.

Silk Strike Assumes Graver Aspect as A.F.L. Members Walk Out

THE silk strike, which had at first been regarded somewhat as a mere political gesture by the Communist-controlled National Textile Workers Union, took on a graver aspect this week, when the amalgamated unions—the United Textile Workers, A. F. of L. unit, and the Associated Silk Workers—voted to advance by six days the walk-out scheduled for Aug. 3. This strike became effective at 10 a.m., last Tuesday morning, and an indeterminate number of workers responded.

With the two strikes now on, there are signs of a clash between the rival unions. It is too early to estimate the full significance of the situation to the broadsilk industry; interest centers chiefly, of course, on the developments in the Paterson, N. J., silk district, although the N.T.W.U., the Communist faction, claims that the strike is affecting mills in Allentown, Easton, Pawtucket, and other districts as well. New York silk manufacturers, who are watching developments closely, regard the situation mainly from the point of view of the dyeing industry. It is pointed out that about 80% of all the silk dyeing in the country is done in the Paterson district. As yet the dyers have not been affected, but the N.T.W.U officials claim that these operatives will respond later.

A number of mills in the Paterson district were closed this week by the walk-out of their employees. These firms resold their raw silk stocks, which had an unfavorable effect on the primary market. It is reported that the N.T.W.U. strike has brought out 2,000 out of a total of about 20,000 silk workers in the district; the union itself claims 3,000 are out.

The new strike of the A. F. of L. affiliates is regarded as potentially more serious, since these organizations have substantial membership among weavers in the broadsilk, ribbon, hatband, and label manufacturing mills; also among loom fixers, twisters, warpers, winder reed harness workers and others.

Urge Owners to Organize

The strike announcement of the A. F. of L. union was accompanied by a statement to the effect that silk manufacturers should "organize themselves" to bring the industry back to "a decent basis," thereby improving their own business by stimulating the purchasing power of the workers.

The demands of the A. F. of L. affiliates, as abstracted follow: An eight-hour day, a 44-hour week, and overtime and recognition of the union. The new wage scale seeks a 35% increase for broadsilk weavers and auxiliary help; loomfixers, $44 a week, minimum; twisters, $1 an hour; warpers, $40 per week; ribbon weavers, $33 for two harness work and $40 for three harnesses; label weavers, $36; and helpers in the dye shops, $24. Other demands were subject to revision.

The strike order of the Associated Silk Workers and the United Textile Workers did not include workers employed in the hatband and ribbon industry and about six jacquard shops, all these being unionized.

The first violence of the strike occurred early Tuesday morning, before the A. F. of L. strike order had become effective. A group of about 300 pickets of the National organization clashed with the police while parading in front of a small silk mill. Several policemen and numerous strikers were injured, and there were three arrests. On Monday evening, N.T.W.U. members attended a joint meeting of the U.T.W. and the A.S.W. They were invited to address the meeting, but the speeches were of an exhortative nature and some heckling resulted. Paterson observers regard the strike there as shaping into a war between the Communist group and the A. F. of L. unit.

▸ New England Strike Developments

More operatives than at any time since the strikes, are reported back at work in the Weybosset Mills of the American Woolen Co., Providence, R. I., and the Royal Weaving Co., Pawtucket, R. I. Somewhat less than half of the 1,300 normally employed at the Royal Weaving Co. have returned to their tasks. Both plants are still being picketed, but, outside of a few flurries in Pawtucket, conditions have been quiet. No progress has been made to date at the General Fabrics Co., Central Falls, R. I., where rioting occurred when it was attempted to re-open the plant on July 9 after a lock-out in effect since May 7.

Hope of settling the strikes at the Bloom Silk Co. and M. Salzberg Sons & Co., Putnam, Conn., has waned at this time and the Salzberg management has announced that the plant will be closed indefinitely. Operatives are demanding a wage increase and a shorter work week.

▸ Film Shows Manufacture of Cotton Into Fabric

The first showing of a new film, "Cotton, From Seed to Cloth," the second of the Films of Commerce, Harvard University series of motion pictures on commerce and industry, was held at the summer session of the university, Cambridge, Mass., Tuesday, July 28.

"This film," says Dr. Kirtley F. Mather, chairman of the Department of Geology and Geography, "tells the complete story of cotton from the planting of the seed, through the growing, picking, ginning, and manufacture, to finished cloth and blankets. The completed products are shown in natural colors. The film is replete with animated maps showing where cotton is grown, and animated charts showing the amount produced by various countries. The first animated diagrams ever constructed to show the intricacies of the drawing, spinning and weaving processes are used in these films and contribute greatly to their instructional value."

The cotton and sugar films are part of a series, being made with the co-operation of leading manufacturers, on the basic American industries. The film on cotton was sponsored by the Nashua Manufacturing Co. of Boston, and the mill scenes were photographed at the mills of that company in Nashua, N. H.

▸ Linen Mill Reorganizes And Will Revamp

Salem Linen Mills, successor to the Oregon Linen Co., Portland, Ore., has been legally organized and the following officers elected: John C. Veatch, president; F. J. Gilbraith, vice-president and general manager; and J. B. Meek, secretary and treasurer.

F. J. Gilbraith, newly elected manager, will continue as manager of the Miles Linen Co. of Portland. He left for the East, July 24, for about a month. The main purpose of his visit is to secure new looms for the mill and, at the same time, contact eastern customers. Some of the old looms are being overhauled, but the majority will be scrapped.

Mr. Gilbraith made the statement that the new company already had numerous orders for yarn and some for crash to be used in the Pacific coast markets.

▸ Bigelow Announces Advances in Price

The Bigelow-Sanford Carpet Company, Inc., have announced price advances in practically all lines of rugs, to be effective as of August 3, 1931. The new price lists are being mailed to the trade today.

▸ Correction

The Thomas W. Buck Hosiery Co., Inc., Philadelphia, advises us that an item in recent issue of Textile World, to the effect that the company has settled its strike and is now operating with union labor, is absolutely incorrect. They state that, until recently, their plant had been picketed by union men, but that the company has never had any dealings with the union nor does it intend to in the future. They further advise that they are continuing to operate their plant as an open shop, just as it has been operating during the last 40 years.

▸ New Management for Dedham Finishing Co.

George Endicott has been elected treasurer and a director of the Dedham Finishing Co., Dedham, Mass., to succeed William H. Gray, who has resigned his position as treasurer.

Mr. Endicott is primarily of the steel industry, his most recent position having been with the Wickwire Spencer Steel Co. of Worcester, Mass., although he has had some previous textile experience, and he states that he is planning to reorganize the personnel of the company and to revamp its equipment to the end that it will be able to render an even better quality of workmanship and service to customers.

E. T. Maher, superintendent, will remain with the new organization, as will W. T. Jordan, who has handled the sales of the company's products in the New York district for many years.

▸ C. Walter Seidel Forms Raw-Thrown Silk Firm

C. Walter Seidel, whose resignation as manager of the raw silk department of Oscar Heineman Corp., Chicago, after 18 years' service, was announced recently, has established a business of his own, under the name of C. Walter Seidel, with headquarters in the Adams-Franklin Building, Chicago. He will deal in raw and thrown silk. He will represent, among others, Kahn & Feldman, Inc., on thrown silk in the south and middle west, and E. Gerli & Co., Inc., on raw silk in the middle west.

▸ Available for Foreign Trade Conferences

Trade Commissioner Hiram T. Nones, who has just completed a three-and-a-half-year investigation in the textile markets of Egypt, Australia, South Africa and the Philippines, will be available for trade conference work, July 31 to Aug. 22 inclusive, in the office of the Bureau of Foreign & Domestic Commerce, Room 734, Custom House, New York.

Prior to Mr. Nones' assignment abroad, he was assistant chief of the Textile Division of the Bureau, at Washington, and has spent several years in the textile business on his own account.

▸ Tags to Identify Design Originals

Aiming to protect textile designs, the newly formed Design Protective Association has formed a plan of design registration. The salvage of all silk goods of member houses will be marked "Registered—Design Protection Association." The ultimate consumers are also to be asked to help combat the design piracy nuisance by insisting upon buying only dresses which are tagged, "Registered Design," except when buying formal patterns. Thousands of dress tags are being printed by the big silk houses and they will soon be used on dresses made from their merchandise. Advertisements will call upon the women to watch for the tags and lend their purchasing strength to the anti-piracy movement by patronizing those dealers which sell tagged dresses.

▸ June Broadsilk Sales Increase

Volume sales of silk piece goods showed a fractional increase during June, 1931, as compared with the previous month, according to the Silk Association of America, Inc. Sales for the first six months of 1931 show an increase of 8.9% over the corresponding period of 1930. Stocks at the end of June, 1931, were 16.2% under those of the same month a year ago.

▸ Feature Bemberg in Mesh Underwear

Mesh and tricot fabrics of Bemberg are being featured in the new "Youth" foundations of Warner Brothers Co., styled to mould the young figure to the fall silhouette. Outstanding in this collection is "Contura", in an all-Bemberg mesh fabric from Kraemer Hosiery Co.

▸ S. Blumenthal Price Rise Encourages Market

The broadsilk market, especially the pile fabric division, attached much significance this week to the news that an increase of about 7% in its wholesale price on transparent velvet is announced by Sidney Blumenthal & Co. The move was regarded as indicating an upward trend in textile levels for fall.

Julius Werk, manager of the sheer velvet department of the company, stated that the price has been revised from $2.32½ a year to $2.50, terms, net 70 days, or 2% off in 15 days.

▸ Viscose Offers "Dulest," New Yarn

A new dull luster yarn, to be known as "Dulest," has been placed on the market by the Viscose Co., it is announced. The new yarn is stated to be duller than the same firm's "Dulesco." The yarn is available in 150 denier, 40 filament on cones, first quality, at 75c. per lb. This is the only size being made at present and it is planned to concentrate the sale of the yarn to the knitting trade. The new name is pronounced "dull-est."

Increased Sales, Decreased Stocks and Conservative Production Schedules

LARGE increases in sales, the wholesome reduction in stocks, and the current conservative production schedules were the principal points discussed at a meeting of the print cloth group, Greenville, S. C., July 28.

George A. Sloan, President of the Cotton-Textile Institute, and W. S. Nicholson, President of the South Caroline Cotton Mfrs. Association, presided. Over 55,000 looms were represented.

Over a period of one year, print cloth stocks have been reduced 70%, the mills having less than one-third of the volume of stocks now as compared with July, 1930. Sales of print cloths for the first six months of this year were 33% in excess of the same period last year.

In commenting upon these favorable developments, Mr. Sloan stated: "With stocks at the lowest point in three years, and with demand closely approximating that of 1929, the production of print cloth mills is nevertheless being maintained at conservative levels. Overproduction is being carefully avoided. For the first six months of 1931, production was 8% less than last year. The increased sales were used to reduce the excessive stocks. Reduced production was further accentuated in July, with the result that the average weekly production for the first three weeks in July has been 15% less than in June and 30% less than for the peak of 1929."

Mr. Nicholson expressed the opinion that the mill executives have come to realize that a favorable statistical position of this kind would be easily upset to the detriment of the industry and its customers if mills went back to the ruthless scale of day and night operation.

The discussions indicated that the constructive policies that have aided the mills in the past in avoiding overproduction will continue to be followed. This, in all probability, will mean a continued low rate of production through the balance of July and August and until the seasonal pick-up in the fall.

It was brought out at the meeting that 80% of all print cloth mills, on a loomage basis, were actually conforming to the recommendation that night employment of women and minors be discontinued. This percentage includes 78% of those classified formerly as day and night operators.

Among those present were Irving Southworth and W. P. Hamrick of Pacific Mills; W. S. Montgomery of Spartan and Gaffney Mills; B. B. Gossett of Chadwick-Hoskins Company; R. E. Henry of Aragon-Baldwin Cotton Mills; T. M. Marchant, Victor Monaghan Company; Benj. Riegel of Ware Shoals and Trion Cotton Mills; L. O. Hammett of Chiqupla Mfg. Company; Marshall Orr of Orr Cotton Mills; J. B. Humbert of Lonsdale Company; J. A. Law of Saxon Mills; W. S. Nicholson of Union-Buffalo Mills; J. C. Evins of Clifton Mfg. Company and D. E. Converse Company; Emslie Nicholson of Monarch Mills; Aug. W. Smith, Jr., of Brandon Corp.; and E. F. Woodside of Woodside and Easley Cotton Mills.

Overseers' Round-Table

THIS department offers a new subject for discussion each week and gives readers' comments on problems introduced during previous weeks. The subject which was opened four weeks ago is closed this week and a summary of contributed ideas is given on opposite page

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Physical Examinations

Editor, Overseers' Round-Table:

I AM very much of the opinion that it would be to the advantage of both mill and employees if physical examinations were compulsory.

Accidents, like the one Pete mentions, might be avoided and the mill thus be saved much unjust criticism, and the employee would not be assigned to work for which he was physically unfitted.

Personally, I have never known of a mill discarding this practice once it was installed, which is about as good an indorsement as any one could wish. Pete is certainly correct in his conclusion that it is a fine thing.

G. C. LUCAS.

Buying Through the Mill

Editor, Overseers' Round-Table:

I DON'T approve of the mill purchasing supplies for its employees and would advise a hands-off policy in this matter. One of the reasons I have against the mill buying is that there are times when some one gets a lemon, or inferior merchandise, and the mill is to blame in their view, which leads to wrangling and arguing which not only causes hard feeling but also takes up a considerable amount of time.

A few years ago this was tried out in a number of mills and we were purchasing carloads of produce and other staples and distributing them at cost! This went over big for a time, but after the novelty wore off the mill was out money.

In cases of mill purchasing we must consider the business men who have so much at stake as retailers. You cannot blame them for making a squabble, as you must remember; a flower cannot exist without water. J.

Editor, Overseers' Round-Table:

MOST FIRMS that manufacture finished products will sell them to employees at cost price. This is a fairly well recognized practice. However, by buying in bulk and selling to employees the retailers' profit would be entirely cut out. Now, retailers are indispensable for distributing goods and any textile concern should know that it depends on retailers to distribute its finished products.

It is obvious that any plan like the mill selling would reduce the retailers profits and thus reduce selling efficiency. Retailers and their employees have purchasing power and if profits were cut the purchasing power of this group would also be cut and this would hit firms making primary products. If this practice were to spread through all industry it would be very serious for industry itself. W. E. W.

Editor, Overseers' Round-Table:

ALLOW ME to state from an experience gleaned from almost 50 years in handling different kinds of work that

A Savings Bank for

"I SEE Tex and Bill over there with their heads together," Superintendent Chase said as the overseers gathered. "How about it, Tex, are you cooking up something for us to discuss today?"

"Why, yes," Tex answered. "I haven't worked the whole thing out yet, but my idea is that the company ought to arrange some way of helping the employees start savings accounts. I guess I don't have to give a long song and dance about how good it is for everyone to have a savings account, so let's skip over that. What I had in mind was that the company should set up a savings department. The workers could say how much they wanted to save each week and then the company could take this amount out of the pay envelope. Naturally, the company would invest the money in good bonds or preferred stocks and pay interest on the accounts. I think it's a great plan."

"It may be a great thing to save," Bill broke in, "but why not let the banks handle such things?"

"For two reasons it is better to have the company handle the matter," Tex came back. "In the first place, we all admit that it is a fine thing to save, but human nature is such that we usually just think and don't actually do anything. We always say it is too much trouble to go down to the bank or something of the sort. Now, the advantage of having the company handle the thing is that it works automatically; every week the company takes the dollar or two, or whatever it is, out of the pay and the worker doesn't have to worry anything about it. Another reason for having the company handle savings is that the workers would get more interest than they would get from the bank. The bank has a lot of expenses and these expenses have to come out of interest. The company should be able to get around 5% on some good bonds and could pass this right along to those with savings accounts. As far as the company is concerned there would not be a great deal of work involved and the employees would appreciate the plan so much that the company would benefit."

"I can't agree with you at all," Bill drawled. "I must admit that I like the feature of getting more interest, and I admit that I favored buying

Employees

through the company a few weeks ago, but I'm all against having the company handle savings accounts. Everyone is very touchy about money and I think that there are possibilities of a lot of trouble with the company mixing in on banking matters. You can imagine the jam if anything went wrong and a few of the bonds went sour. You may say this is impossible, but everyone makes mistakes."

"Why, Bill," Pete laughed, "you must be feeling bad today because I actually agree with you. However, my main objection to the plan is not that it might meet with trouble on securities, but rather that I don't thing it is the type of thing a company should do. I'm all in favor of anything which will help the bond between the company and its employees, but this is not the sort of thing to do. The company would have quite a bit of expense and I think that there would be so much difficulty handling an outside line such as banking that the employees would be so dissatisfied that they would be sore most of the time."

"Well, it's getting near quitting time," Hank put in, "but I want to cast my vote with Tex. It's a good plan and I'm for it."

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Do *you* think that the company should start a savings department for employees?

Overseers and others are invited to discuss this and other questions brought up in the super's talks. Letters accepted and published will be paid for without regard to length. Brevity is desirable.

any company that attempts to act as a distributor of supplies for its employees is going to get in hot water.

In the first place, it means quite a lot of extra work for the office force and, in the second place, as Pete says, if an employee saves a little money soon all his relatives and friends will be wanting to buy through the company and there will be so many complications that the evil effects will far outweigh the good.

Every progressive mill wants the co-operation and support of the business men of the community. This certainly cannot be secured by trying to take their business away.

The ethical idea is to let each employee buy his own supplies where, or from whom, he pleases and give them no chance for a grievance against the mill.

W. B. STIDHAM

Editor, Overseers' Round-Table:

EVERY COMPANY is guilty of allowing some of its officials and employees to purchase certain articles at a reduced price. Retailers know this and there is generally no kick when the practice is not abused, but it can be carried too far. If it is practiced at all it should be to a very limited extent.

It must be remembered that business ethics are being emphasized in this day of keen competition and every manufacturer should give the retailer due consideration. J. L. T.

Laying off Help

Editor, Overseers' Round-Table:

I DO not agree with Joe in regard to laying off the old help and keeping the younger ones, unless the company has made some provision for them in their old age.

It is a very serious thing to discharge a worker after he, or she, has put the best years of life into useful service for a company. They certainly have put in more than they have taken out. As a rule the textile worker is not now, or never has been, overpaid. In fact, the textile workers are underpaid compared with other trades when one considers the skill and hours required in this industry.

Satisfied help is the best asset any mill can have, but if the workers are uncertain as to what will happen when they have reached the top of the hill and start down on the other side, they can't possibly do their best work. Just this sort of thing is what has caused, and is now causing, so many overseers to change positions.

Hasten the day when there will be some kind of an old age pension for the worker who has put his whole life in loyal service to a company.

We need both the young and the old. The young to keep a youthful spirit in the old, and the old to act as a balance wheel for the young.

All corporations are not soulless. A fine spirit of co-operation exists between the management and the help in lots of mills. Generally speaking, they never have any labor troubles and the old worker is taken care of when it is time to retire.

It is a strange rule that requires a good mill executive to be 50 years of age, or over, and says to the man in the mill to sing his "Swan Song" at 45 or thereabouts. What we need is more "Golden Rule" and less greed for gold.

F.S.M.

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Summary of Discussion on Buying Through the Mill

In reply to the question of whether it was a good policy to allow employees to purchase certain articles through the purchasing department of the company, thus saving money, 62% of the letters stated that the plan was bad, 22% believed that it should be used wherever practical, and 16% held that only such items as personal tools which were used on the job should be purchased through the company. The main objections to the scheme were that it took time and money, built up dissatisfaction rather than good-will, and was an unwarranted interference with the business of neighboring retailers. Those favoring the plan believed that any such manner of saving employees' money was worth-while and justified.

NEWS about MEN

Harry M. Leslie, of Leslie, Evans & Co., New York, formerly vice-president of the Clinchfield Mfg. Co., Marion, N. C., has been named president and treasurer to fill the vacancy caused by the recent death of B. Mabry Hart.

J. H. Separk, first vice-president, Textiles, Inc., addressed the Gastonia Kiwanis Club, recently. He discussed various phases in the organization of the new 300,000 spindle combed yarn merger and pointed out some of the benefits that will result from the consolidation.

E. A. Terrell, president of Terrell Machine Co., Charlotte, N. C., was elected secretary-treasurer of the Charlotte Citadel Club at a recent meeting of that organization.

W. H. Morrow, has been advanced to the position of vice-president of the Efird Mfg. Co., Albemarle, N. C. and also added to the board of directors. **D. A. Burton** was elected secretary to fill the vacancy occasioned by Mr. Morrow's promotion. **H. L. Horton** is president and treasurer.

William Hunter, managing director of Francis Willey & Co., Ltd., textile manufacturers, of Bradford (Eng.) who has been visiting in Canada following a trip of inspection through many United States textile centers, expressed himself as being greatly surprised at the atmosphere of confidence among textile manufacturers in the United States and Canada despite the present industrial crisis.

Ferdinand Thun, president of the Berkshire Knitting Mills, Mrs. Thun, and Mrs. Max Mittendorf, are sailing today from New York for Europe where they will remain for several weeks. Mr. Mittendorf is vice-president of the Narrow Fabric Co., Inc., Reading.

Captain Elliott White Springs, president of the Springs group of textile mills at Fort Mill, Lancaster, Chester and Cheraw, S. C., well-known author and short story writer, has written a new novel, *"The Rise and Fall of Carol Banks."*

A. W. Harbison, president-treasurer of the Hitchcock-Curtiss Knitting Co., Hartford, Conn., has been elected treasurer and manager of Meech & Stoddard, Inc., grain merchants, but will continue with the knitting company.

W. B. Charles, head of the William B. Charles Co., Amsterdam, N. Y., woolens, has sailed for a vacation in Europe.

Dr. F. Zeidler, vice-president and general manager of Universal Dyers, Ltd., Lindsay, Ont., has resigned and left for England, Germany and France where he will study the latest developments in the textile and dyeing industry.

R. M. Moore, Chattanooga, Tenn., has been appointed manager of the Morristown (Tenn.) plant of the Charles H. Bacon Co., to succeed M. W. Raulston who has become connected with the Dixie Hosiery Mills, Newport, Tenn.

Robert E. Ligon, vice-president and general manager, Gluck Mills, Anderson, S. C., is seriously ill with pneumonia.

R. H. Kayser, for the last few years manager of the company's braid and tape department, has been named production manager in charge of operation of the mills, it was announced by W. P. MacDougall, general manager and director of Belding-Corticelli, Ltd. In addition to superintending production and operation he will also cover the purchasing of all equipment, machinery, etc.

J. Bruce McCullough of Pawtucket, R. I., New England representative of the Amoskeag yarn department, has been appointed the only American representative of the international service committee of Rotary International by President Sydney Pascall of London. He will attend the meeting to be held in Zurich, Switzerland, in September. Mr. McCullough is past governor of the 31st Rotary district.

William H. Quinn, prominent credit man of the Pacific Northwest, has been appointed general manager of the Northwest Textile Association, with headquarters in the Morgan Bldg., Portland, Ore. This group is composed of manufacturers and jobbers in the textile trades. Mr. Quinn was formerly credit manager for Neustadter Bros. manufacturers of men's work clothing.

A. Stanley Llewellyn, manager of the Wateree plant of the Kendall Mills, Camden, S. C., was the principal speaker at a meeting of the American Legion at Walterboro, S. C., recently.

Chester C. Bassett, Jr., temporarily transferred to the southern office of the American Bemberg Corp.

Chester C. Bassett, Jr., who has been connected with the New York sales office of American Bemberg Corp., has been temporarily transferred to the company's southern office at Greensboro.

S. Edward Rowland, with Duplan Silk Corp. for the last four years, will join the Worcester Silk Mills Corp. on Aug. 1. Mr. Rowland will be in charge of sales to the retail end of the business.

P. J. Hinds, general superintendent of the American Thread Co. has been elected a vice-president and director.

Gordon R. Hope, who has been in charge of the Southern office, is severing his connection with American Bemberg Corp. Aug. 1.

Samuel A. Goodfellow has been appointed superintendent of the Barnard Mfg. Co., Fall River, succeeding Joseph T. Leach, who has resigned. Mr. Goodfellow has served as assistant superintendent for the last three years, previous to which he was an overseer in the Taber Mill, at New Bedford.

Springer Wood has been transferred from "A" building laboratory of the Tubize-Chatillon Corp., Rome, Ga., and made chief of the collodion laboratory in "B" building.

Harry F. Sisson, superintendent, **J. B. Courneyer,** master mechanic, and **E. P. Strout,** office manager, headed the committee in charge of the first annual outing of the workers of the Royal Mills of the B. B. & R. Knight Corp., Riverpoint, R. I. It was so successful that they plan to make it an annual affair.

W. D. Clark, of Lynchburg, Va., has been named cotton buyer for the Erlanger Cotton Mills Co. and the Nokomis Cotton Mills, Lexington, N. C.

S. Burt Bailey, office manager and paymaster of the old Globe Mill of the Manville Jenckes Co. has concluded his duties after 26 years with this company and its predecessor, the Manville Co. The Globe Mill has now been closed.

R. W. Green, is joining the American Bemberg Corp. as a weaving technician. For the last year and a half Mr. Green has been manager of manufacturing at the Ashland Corp., Jewett City, Conn., a unit of the United Merchants & Manufacturers Management Corp.

William E. Higgins, American Thread Co., Willimantic, Conn., has been retired on a pension after 50 years connection with the company.

William Barrett an employee of Cheney Bros., South Manchester, Conn., for 61 years, has been retired by the company.

James Neil will be in charge of top dyeing and **Norman MacLaglan** will be in charge of piece dyeing at the Stillwater Worsted Mills at Harrisville, R. I. **James Fitzgerald** has resigned as chemical research engineer at the Stillwater mills and has returned to his home in North Adams, Mass. **Frank Brierly** has resigned as overseer of dyeing at the Stillwater Worsted Mills.

J. H. Separk, who discussed combed yarn merger, Textiles, Inc., before Gastonia Kiwanis Club

A. W. Buhlman, textile engineer, completed 25 years of serving the textile industry of the U. S. on July 3. The anniversary was the occasion of a presentation from his office and sales staff of a handsome paper weight mounted with solid silver plate with his monogram in gold.

Arthur M. McBrinn, a former overseer for the Otis Co., Ware, Mass., has been appointed town almoner of Ware.

Edgar Curtis, overseer of carding at the Linwood (Mass.) mill of Whitin Bros., Inc., has resigned to accept a similar position in New Bedford, Mass.

Henry Bergeron, night overseer of carding for the Adams (Mass.) Woolen Mfg. Co., has accepted a similar position with Henry D. Bailey, Hope Valley, R. I.

Warren L. Hadley, a graduate of the Textile School of North Carolina State College, who has been with the Burlington Mills at Burlington, has been transferred to Statesville, N. C., where he will act as local agent for the Duchess Fabrics Corporation.

A. W. Buhlman, textile engineer, completed 25 years of serving the textile industry of the U. S.

New Books

THE COMING OF INDUSTRY TO THE SOUTH; Edited by William J. Carson, Ph.D., Philadelphia; American Academy of Political and Social Science; $2.00.

This is volume 153 of the series, "Annals of the American Academy of Political and Social Science," and it comprises a collection of papers by leading authorities on the industrial evolution of the South. The work is particularly timely, in view of the rapid development of the Southern States as industrial centers. It opens with reviews of pre-Civil War conditions, and this is followed by papers tracing the growth of industries such as textiles, tobacco, iron and steel; attention is also given to analysis of industrial resources such as lumber and forest products, chemical resources, coal mining and the power situation. Certain states are given individual attention, in view of their industrial importance. The volume concludes with two divisions that treat respectively of labor conditions and economic and social problems. The article, "Southern Textile Manufacturing," by Claudius T. Murchison, professor of economics, University of North Carolina, is particularly interesting to textile men. However, there are many other papers in the symposium which could be read with profit by textile manufacturers who are, or soon may be engaged in textile production below the Mason and Dixon line.

TEXTILE RECORDER YEAR BOOK 1931; Edited by John Brooks, London; John Heywood, Ltd.; Price, eight shillings and three pence; 898 pages.

Expansion of the rayon section and the addition of a department on dyeing of rayon, expansion of the section on microscopy of textile fibers, and a complete revision of all statistical data, bringing them up to date, are among the chief features of the new issue of this directory. The volume is replete with tables, graphs and specifications showing trends both in production and sales, and in technical development. Beginning with raw materials, the work sub-divides into sections on yarns and finished goods and offers a comprehensive picture of international progress in all the main branches of textiles.

BOOK OF PROCEEDING, Southern Textile Association; Vol. 23, No. I.; January, 1931.

Contains full reports of the 22nd semi-annual meeting of the Southern Textile Association, including addresses by C. K. Everett, of The Cotton-Textile Institute, Inc., and George S. Harris, president, Hunter Securities Co., Atlanta, Ga. Technical discussions at meetings of Master Mechanics and Eastern Carolina Divisions, and revised by-laws of the association are published in full. The list of members appearing in this volume supplies a valuable appendix.

ENGLISH DECORATIVE TEXTILE: TAPESTRY AND CHINTZ, Their Design and Development from the Earlist Times to the Nineteenth Century; By W. Gordon Hunton, London; John Tiranti & Co.; Price, two pounds ten shillings.

This latest volume of the Decorative Art Series comprises a history, chiefly pictorial, of tapestry design development since the second half of the 16th century, and of chintz design development since the second half of the 17th century. A brief history of tapestry, written by the author, opens the book, and the remainder of the volume is devoted to 180 plates showing striking examples of tapestry design in olden times. The topics of design include a wide variety, ranging from pastoral scenes to flower patterns; some of the latter strikingly resemble modern products and might be representative of a silk fabric of the current season. The volume should prove interesting and valuable to American textile designers. The photographic work is excellent, minute details of design being visible to the eye.

THE TEXTILE MANUFACTURER YEAR BOOK 1931; Emmott & Co., Ltd., 65 King St., Manchester, Eng. Price three shillings and six pence.

Numerous amplifications and new divisions add interest to this standard reference book of the British textile industry. The doubling section has been extended to include articles on "Modern Ring Doubling," "Making of Fancy Yarns," and "Sewing Cotton Manufacture." An article of particular interest is "The Properties of Wool Fiber," which embodies some new technical data. The book includes a broad range of statistics on textile production and labor conditions, but is perhaps most valuable for its technical material which is both timely and comprehensive. There are articles on rayon and on general weaving technique.

SKINNER'S COTTON TRADE DIRECTORY OF THE WORLD, 1930-1931; Thos. Skinner & Co., 280 Broadway, New York City; $10.

Information and data on cotton firms throughout the world are presented in the new edition of the Skinner Directory. The work totals 1351 pages, and covers all aspects of the cotton industry, from the cotton merchant to the manufacturers and dealers in the different cotton fabrics. It lists the chief firms engaged in the cotton industry in all countries. Its principal subdivisions are: raw cotton and waste dealers, exporters, etc.; spinners and manufacturers; piece goods dealers; rayon manufacturers; cotton machinery manufacturers and mill supply concerns. All headings are given in English, French, Spanish, Portuguese, Italian and German.

Textile Calendar

Carolina Yarn Association, Second Annual Golf Tournament and Outing. (Place to be announced later.) Sept. 18 and 19, 1931.

National Association of Cotton Manufacturers, Annual Meeting, Providence-Biltmore Hotel, Providence, R. I., Oct. 7 and 8, 1931.

Silk Industry Week, Paterson, N. J., Nov. 14 to 21, 1931, including Silk Machinery Exposition, Nov. 14 to 21; National Silk Convention, Nov. 18 and 19; Paterson Silk Institute, Nov. 14.

American Association of Textile Chemists and Colorists, Annual Meeting, Boston, Mass., Dec. 4 and 5, 1931.

Southern Textile Exposition, Textile Hall, Greenville, S. C., Oct. 17 to 22, 1932.

NEWS about MILLS

Cotton

***West Boylston Mfg. Co.** of Ala., Montgomery, has awarded a general contract to the Capitol Construction Co., Standard Bldg., Atlanta, Ga., for two new additions to its mill consisting of a one-story unit, 105x135 ft., for expansion in the cloth and weave department, and a three-story warehouse, 100x100 ft. Work will be started at once. Robert & Co., Bona-Allen Bldg., Atlanta, are the architects and engineers.

Exeter Mfg. Co., Exeter, N. H., is arranging for the reopening of its mills on Aug. 1, following a shut-down of about a month.

New York Mills (N. Y.) Corp. is completing extensive improvements including the laying of several hundred feet of concrete sidewalks.

A. M. Smyre Mfg. Co., Gastonia, N. C., recently installed a new yarn-gassing machine manufactured by the Cocker Machine & Foundry Co., of Gastonia.

Revolution Cotton Mills, Greensboro, N. C., have closed for a brief vacation from July 31 to August. 10.

Carolina Mills, Inc., Maiden, N. C., have closed negotiations for a site near Port Neches, Tex., on which it is reported a textile mill will be erected in the near future. The site is one of two on which options were secured about a month ago.

Grier Cotton Mills, North Wilkesboro, N. C., have been presented by the Maryland Casualty Co., of Baltimore, a certificate for making the record of having lost no time by accident in the plant in 19 months; a record, it is believed, not surpassed by any cotton mill in the state.

Sterling Yarn Co., Inc., Providence, R. I., recently organized with a capital of 100 shares of stock, no par value, to operate a cotton yarn mill, will be represented by Samuel Bander, 118 Lorimer Ave., Providence, who will be one of the heads of the company.

Ariel Mill, Easley, S. C., is erecting a large number of houses for the operatives of its plant which is headed by E. S. McKissick, president and treasurer.

Irene Mills, Gaffney, S. C. Henry C. Moore, receiver for the company, announced that the output of the mills will be increased in a short time. The announcement followed Major Moore's return from New York where practically all of the finished products of the mill are sold.

Dyersburg Cotton Products Co., Dyersburg, Tenn., has announced a present working force of 700 and prospects for increased business. The mill is now running at fuller capacity than at any time since its start in June, 1930. This company represents a consolidation of **Oswego (N. Y.) Yarn Co., Adrian (N. Y.) Knitting Products Co.** and **Adrian (N. Y.) Knitting Co., Sauquoit (N. Y.) Knitting Co.,** and the **Skonandon Cotton Co.,** Utica, N. Y. In addition to knit underwear and sweaters, the New York office is now selling specialty knit cloths and products for the industrial trades.

Wool

Wyandotte Worsted Co., Waterville, Me., is running night and day with three shifts. Officials admit that the plant is very busy, and rumors are current that a large order has been received which will insure full-time operation well into October.

George H. Gilbert Mfg. Co., Gilbertville, Mass., closed its mill July 24 because of low water. The date of reopening is uncertain.

Fulton Worsted Mills, of the American Woolen Co., Fulton, N. Y., are advancing schedules and a number of departments have been placed on a full-time basis to continue for an indefinite period.

Johnson Woolen Mills, Ltd., has purchased the plant of **Waterville Woolen Mills,** Waterville, Que., and have begun operations there. The new company is associated with **Wilford & Johnson, Ltd.,** woolen manufacturers, Leeds, England. H. S. Horsfall, formerly head dyer with Auburn Mills, a subsidiary of Dominion Woolens & Worsteds, Ltd., Peterborough, Ont., has been appointed superintendent.

Kincardine or **Owen Sound, Ont.** Erection of a spinning mill in either of these localities is contemplated. William Mitchell, of Kincardine, is interested in the project.

Knit

Alabama Hosiery Mills, Decatur, Ala. A meeting of stockholders was called for the purpose of electing directors and placing a picture of financial conditions before them by Andrew G. Patterson, president. The mills are now operated on full time day and night shifts. T. A. Bowles and L. R. Nash were elected to represent the preferred stockholders; A. G. Patterson, T. D. Johnson, and Ernest Garrett were elected to represent the common stockholders.

***Mission Hosiery Mills, Inc.,** Los Angeles, Calif., have awarded a number of sub-contracts for work in connection with a new one-story and basement addition, 93x176 ft. The roofing will go to the L. W. Blinn Lumber Co., Los Angeles; reinforcing steel to the Soule Steel Co., Los Angeles; and plumbing to W. W. Brooks, Los Angeles. The general contract was recently awarded to the Kubach-Snyder Co., Ltd., Los Angeles. The extension will cost about $35,000.

Lawrence Mfg. Co., Lowell, Mass., has just installed two Wildman 28 in. latch needle knitting machines, an exceptionally large size.

Fonda (N. Y.) Glove Lining Co. has returned to full-time schedules after being on part-time for several weeks.

Surry Knitting Mills, Inc., Mt. Airy, N. C., recently organized here by C. C. Lovill, J. W. Lovill and Z. W. Hatcher, with a capital stock of $10,000, will install machinery in their plant for the manufacture of sweaters and bathing suits.

P. H. Hanes Knitting Co., Winston-Salem, N. C., has announced a full Saturday holiday for its employees, without reduction of pay. This full day off is being made possible by making a slight increase in the length of the other five working days sufficient to take care of work that would ordinarily be done on Saturday mornings.

Herbert Hosiery Mills, Norristown, Pa., were greatly damaged when a small creek ran riot, flooded its banks and poured tons of water into the plant.

Apex Hosiery Co., Philadelphia, employees are receiving a vacation fund of $85,000, based on their savings, plus 7% interest on their investment, which was carried by the company. Production stopped July 24 and will be resumed Aug. 12, with the exception of the shipping department which will be closed only one week.

***Alderwood Knitting Mills,** Portland, Ore., are all ready to move into the new location at East 31st St. and Sandy Blvd., Aug. 1, where a modern concrete factory building has just been completed. The company was organized in 1925.

Virginia Maid Hosiery Mills, Inc., Pulaski, Va., second unit addition has just been turned over by the contractor, D. J. Phipps, of Roanoke, Va. The first car of machinery has been received, and the work of installation will start at once. The equipment is due to arrive, a car each week, until delivery is made of the entire lot. T. J. Wallner, president and general manager, stated that he expected to have the new unit ready for operation by Oct. 1.

Warren Hosiery Co., Ltd., operating under a Federal and Provincial charter, will shortly commence the manufacture of children's ribbed hosiery at 798 Weston Road, Toronto. Premises have been secured and machinery is being installed. The company is headed by W. H. Bromley, formerly of the Monarch Knitting Co., St. Catherines, Ont.

Silk

Clark Bros., Glens Falls, N. Y., is now running near a capacity schedule with many new workers.

Wonder Weave of Canada, Ltd., St. Hyacinthe, Que., is the name of a concern which has recently been incorporated by the Canadian government.

Rayon

Du Pont Rayon Co., New York, has authorized the construction of a motion picture theater at Old Hickory, Tenn., for employees at the local mill, estimated to cost over $100,000. The structure will have a seating capacity of 900 persons. It is expected to break ground before the close of this month.

Canadian Celanese, Ltd., Montreal, has under consideration a plan for construction of a print works. Hitherto the company has not done any printing in its plant at Drummondville, Que. The company recently completed a $2,000,000 expansion program which increased its capacity by nearly 50 per cent.

Canadian Rayon and Textile Converters is the name of a new concern recently capitalized with head office at West Lorne (Ont., Can.). The capital structure consists of 250 preferred shares of no par value of $100 each, and 1,500 common shares of no par value. The provisional directors are: H. Schofield, J. K. Sims, N. M. Ziegler, T. H. Ainley, and P. Y. Smiley, all of West Lorne.

Finishing

Groves Mills, Inc., Gastonia, N. C., have changed their name to **Groves Thread Co., Inc.** The new dyeing and bleaching plant of the company has been completed and is now ready to do high-grade dyeing and bleaching. The principal output will hereafter be mostly thread yarns in all sizes and counts.

Brehm & Stehle, Trenton & Allegheny Aves., Philadelphia, dyers and bleachers of yarns, have awarded a contract for alterations to their plant to cost approximately $2,000.

Narragansett Finishing Co., Pawtucket, R. I., awarded a contract to John McCuster, Inc., Riverside, R. I., for the construction of a new concrete dam to improve power facilities.

Miscellaneous

Linen Thread Co. of Massachusetts, North Grafton, Mass., which recently closed its plant, is moving the unfinished material to the Dunbarton mill of the Barbour Flax Spinning Co., Greenwich, N. Y., another branch.

Maurice River Mills, Millville, N. J., have been organized and are installing looms for the manufacture of upholstery fabrics. The mill will start operating about Sept. 1.

Superior Felt & Paper Mills, Inc., Seattle, Wash., care of Ray E. Stanley, Seattle, president, recently organized by Mr. Stanley and associates with capital of $400,000, has selected property at 28th Ave. N.W. and Salmon Bay, as site for a new plant. A unit of proposed works will be given over to production of roofing felts, with capacity of about ten tons per day. Entire project will cost close to $200,000.

L. Robison & Co., West New York, N. J., has taken title to the three-story mill at 430-36 Eighth St., West New York, 50x127 ft., with one-story warehouse adjoining, 50x127 ft., and will occupy the property for its local mill, which will provide for future expansion.

Lehigh Bernstein Mfg. Corp., Allentown and Philadelphia, Pa., manufacturers of mattress batting, felts, bedding, etc., was placed in the hands of equity receivers by order of the U. S. District Court, July 20, in a friendly suit to conserve assets. Louis Denison, president of the company, and former Congressman Fred B. Gernerd were appointed receivers. It is planned to keep the business in operation as a going concern in order to effect a reorganization. Assets are given as $500,000, with liabilities at about $250,000.

Philadelphia Felt Mills, Ltd., Philadelphia, Pa., are operating their finishing department on two shifts because of the flood last week when considerable finished goods was damaged.

Bexco Products, Inc., Central Falls, R. I., recently organized with capital of 100 shares of stock, no par value, to operate a local felt mill, will be represented by W. Harold Hoffman, Providence, R. I., one of the principal incorporators. Mason B. Merchant, Providence, is also interested in the new company.

***Schlegel Co. (Canada) Ltd.**, 165 Dufferin St., Toronto, Ont., is busy installing machinery and expects to have the plant in full operation sometime in August. G. T. O'Dell, the manager, reports that the mill will concentrate on the manufacture of narrow fabrics for the automobile and casket trade, but may later make trimmings for the furniture trade.

**Indicates previous mention of project.*

Textile Patents

ATTACHMENT for knitting machines. 1,812,700. Charles F. Johnson, St. Johnsville, N. Y. Assigned to Walter S. Becker, Little Falls, N. Y.

AZO DYESTUFFS, complex chromium compounds of. 1,812,345. Hans Krzikalla, Mannheim, and Franz Bluemmel, Seckenheim, Germany. Assigned to General Aniline Works, Inc., New York City.

CARPET and method of manufacturing the same. 1,789,641. Gottfried Struab, Deventer, Netherlands.

CELLULOSIC material and method of making the same. 1,812,790. Oscar Jaeck, deceased, Wolfgang Jaeck, and Fritz Schutz, Basel, Switzerland. Assigned to the Firm of Society of Chemical Industry in Baslem, Basel, Switzerland.

CLOTH cutting machine. 1,812,406. Peter Jenkins, Fort Worth, Texas.

CONVEYER for skein or yarn driers. 1,812,789. Alpheus O. Hurxthal and Herman Bogaty, Philadelphia, Pa. Assigned to Proctor and Schwartz, Inc., Philadelphia, Pa.

COTTON gatherer. 1,789,803. Wallie R. Boone, Lubbock, Texas.

DYEING apparatus. 1,789,745. John C. Hebden, New York. Assigned to Dyeing Processes Corp., New York.

ELASTIC material. 1,812,279. Edward S. Axline, New York City. Assigned to Associated Apparel Industries, Inc., Chicago, Ill.

FABRIC, Antislip. 1,811,843. Lester B. Chisolm, Waterbury, Conn. Assigned to American Mills Co., Waterbury, Conn.

FORM for shaping hosiery and the like. 1,789,666. Emil J. Berger, Howard W. Mathews and Walter M. Schindler, Lansdale, Pa. Assigned to Dexdale Hosiery Mills, Lansdale, Pa.

FORMER for spinning machines. 1,789,455. George D. Spackman, Coatesville, Pa. Assigned to Lukens Steel Co., Coatesville, Pa.

KNIT article and method of knitting the same. 1,789,494. Albert E. Page, Brooklyn, N. Y. Assigned to Scott & Williams Co., New York.

KNITTING plated fabric 1,811,849. Harold E. Houseman, Edge Moor, Del. Assigned to Standard-Trump Bros. Machine Co., Wilmington, Del.

LOOM reed mechanism and motion. 1,812,481. Hubert Haywood, Wirsworth, England. Assigned to the Haywood Narrow Fabric Loom Co. Ltd., The Hague, Broadbottom, Chester, England.

LOOMS, driving gear of narrow fabric looms. 1,812,480. Hubert Haywood, Wirksworth, England. Assigned to The Haywood Narrow Fabric Loom Co., Ltd., The Hague, Broadbottom, Chester, England.

MACHINE for handling fibrous material. 1,812,412. Alex H. Olson, Evanston, Ill. Assigned to Droll Patents Corp., Chicago, Ill.

METHOD of cross dyeing fabrics. 1,812,554-1,812,557. Arthur S. Roberts, Henderson, N. C.

METHOD of producing fancy figures on textile materials by mercerization. 1,811,846. Emil Gminder, Reutlingen, Germany.

NEEDLE loom. 1,789,512. John C. Brooke, Paterson, N. J.

PILE FABRIC and method of making the same. 1,812,602. Horace Mellor, Sanford, Maine. Assigned to Sanford Mills, Sanford, Maine.

PILE FABRIC and method of making the same. 1,812,640. William S. Nutter, Sanford, Maine. Assigned to Goodall Worsted Co., Sanford, Maine.

PROCESS in which viscose silk is subjected to the action of caustic alkalis. 1,812,204. Archibald John Hall, Congleton, England. Assigned to the Silver Springs Bleaching & Dyeing Co., Ltd., Timbersbrook, Congleton, England.

PROCESS of liberating fiber from Bagasse or like stalks. 1,811,864. George A. Ritchter, Berlin, N. H. Assigned to Brown Co., Berlin, N. H.

PROCESS for the wet spinning of flax, hemp, and other textile fibers. 1,789,414. Grigori Petroff, Moscow, U.S.S.R.

SEWING machine. 1,789,534. Alfred R. Morrell, Swampscott, Mass. Assigned to United Shoe Machinery Corp., Paterson, N. J.

SEWING machine, Tucking attachment for. 1,789,704. George Wornal Johnson and Henry Clay Truslow, New York. Assigned to Joseph W. Johnson, New York.

SHUTTLE boxes, replenishing. 1,812,079. Horace H. Burdett, Hopedale, Mass. Assigned to Draper Corp., Hopedale, Mass.

SHUTTLE, filling replenishing. 1,812,087. Fredric E. Douglass, Hopedale, Mass. Assigned to Draper Corp., Hopedale, Mass.

SHUTTLE-GUARD for looms. 1,812,236. Eduard Egli and Edwin Schoch, Ruti, Switzerland. Assigned to Maschinenfabrik Ruti Vormals Caspar Honegger, Ruti, Switzerland.

SKEINING. 1,789,702. Jean Fromonot, Le Peage de Roussillon, France. Assigned to Du Pont Rayon Co., New York, N. Y.

SLUB detector. 1,812,428. Edward Bloom, Paterson, N. J.

STOCKING. 1,789,695. Thomas H. Brown, Abington, Pa. Assigned to the Windsor Mills, Philadelphia, Pa.

STOCKING and method of making the same. 1,789,450. John E. Quinn, New York.

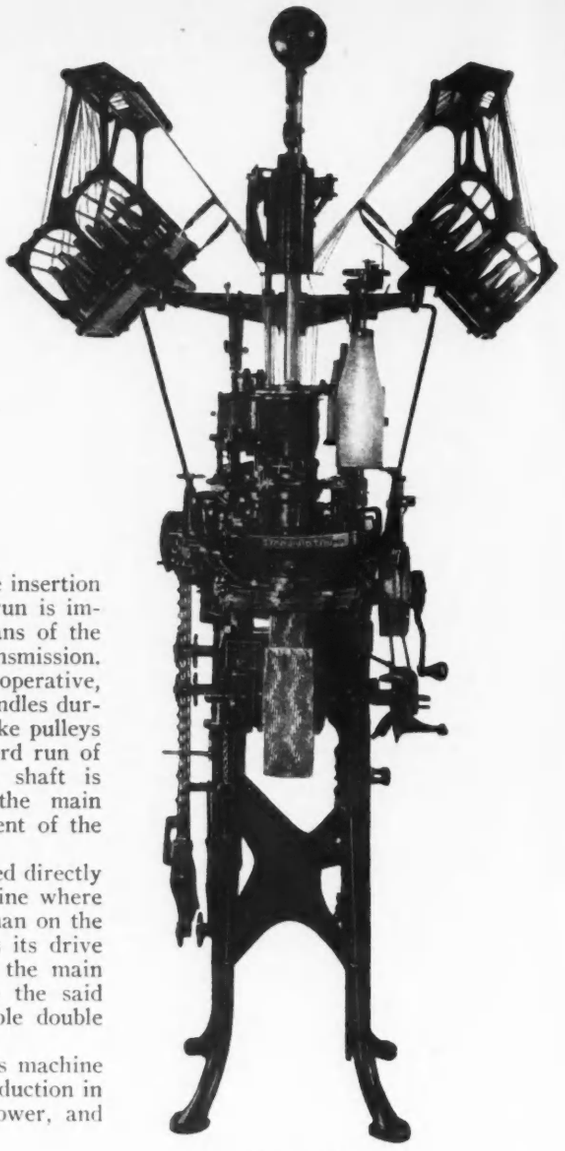
STOCKING, Ornamented flat-knitted. 1,789,555. Hans Peter Luhn, Wyomissing, Pa. Assigned to Berkshire Knitting Mills, Wyomissing, Pa.

TEXTILES, Method and apparatus for treating. 1,789,953. Eugene D. Jefferson, Boston, Mass. Assigned to Rodney Hunt Machine Co., Orange, Mass.

WOVEN wire fabric machine. 1,812,506. Frederick E. Willits, Fairport, N. Y.

YARN tension for shuttles. 1,789,517. Harry Alton Davol, Methuen, Mass. Assigned to U. S. Bobbin & Shuttle Co., Providence, R. I.

New Machinery *and* Processes



Shogging produces desirable patterns

Differential Self-Acting Mule

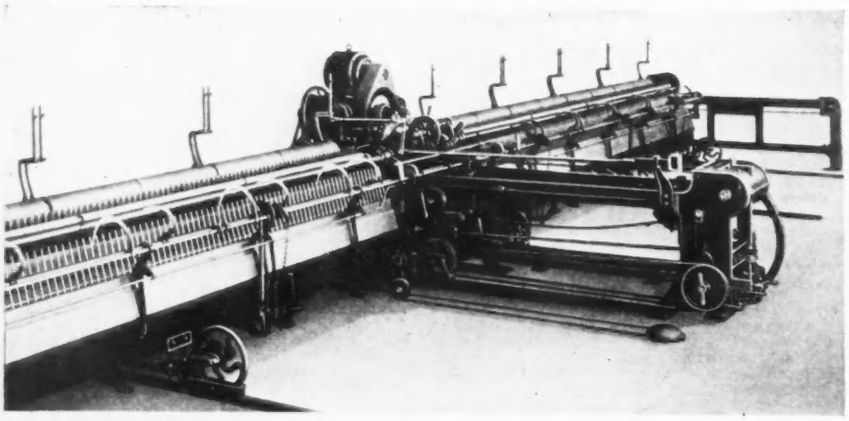
A SELF-ACTING woolen mule having a continuously rotating main shaft and an individual electrical drive has been announced by H. H. Leonard, 475 Fifth Ave., New York, American representative of the Hartmann Machine Co., Chemnitz, Germany. In this mule, the main shaft, together with the spindle driving rope, rotate always in the same direction and at constant speed. This type of drive is attained by incorporating a differential motion in the tin roller shaft in the carriage square.

The rotation of the main shaft is transmitted as usual from the twist gears through the driving rope to a gear in the carriage, which sits loosely on the tin roller shaft but is firmly connected to the differential motion of the latter. The gearing of the differential motion is totally inclosed and is connected outside with two brake pulleys which, when their movement is hindered, so influence the differential motion that the transmission resulting from the gearing referred to above is supplemented by a motion of the gear connected with the locked brake pulley. The forward movement of the spindles in several ranges of speed and also the reversing of the spindles are attained in this manner.

If one of the two brake pulleys is locked, a speed suitable for the insertion of the twist on the outward run is imparted to the spindles by means of the momentarily switched-in transmission. The other brake pulley, when operative, effects the reversing of the spindles during backing-off. The two brake pulleys are free only during the inward run of the carriage; the tin roller shaft is thereby disconnected from the main shaft and follows the movement of the quadrant in the usual way.

The driving motor is attached directly to the headstock of the machine where it can be made more secure than on the ceiling. The motor transmits its drive through a direct gearing to the main shaft, which is connected to the said gearing by means of a flexible double cone clutch.

Advantages claimed for this machine are increased output due to reduction in working time, economy in power, and simple construction.



Main shaft of the differential mule has constant speed

Needle-Wrap Hosiery Machine

ANNOUNCEMENT of a fully automatic, individual-needle-wrap knitting machine for the manufacture of embroidery-patterned hose has been made by Standard-Trump Bros. Co., Inc., 366 Broadway, New York. It is stated that the product of this machine is distinctly different from the embroidery hose now being made in this country.

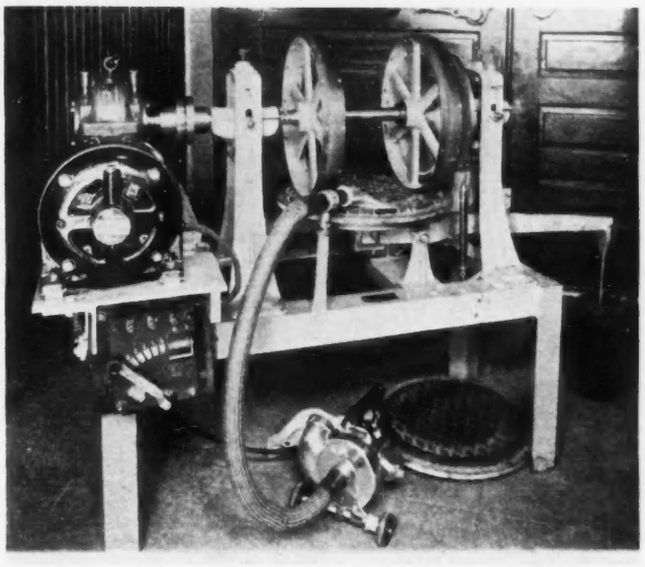
The machine, known as the Model L, is equipped with a wrap for each needle. For instance, on a 200-needle machine it is possible to use 200 bobbins. The wrap-yarn bobbins are stationary and are placed above the head of the machine.

It is built in sizes 2¼ to 4 in. in diameter and the gage ranges from 24 to 48. There are fifteen steps for patterning, and trick-wheel control is employed. Above the regular cylinder is a finger cylinder having the same number of slots as the former. The wrap fingers, one of which may be placed in each slot, have fifteen butts, acted on by cams which are controlled by the trick wheel.

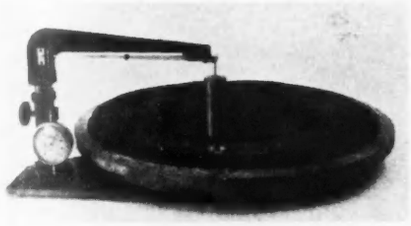
Model L also has a shogging device, permitting 15 steps of shogging. Shog patterns can be made on it separately or in combination with regular patterns. When shogging, the finger cylinder-head is racked one needle at a time, either to the right or the left. In this way, the finger which is wrapping the

needle steps over one needle and wraps the adjacent one and, by shogging back and forth, changes the color of the wrap yarns vertically. Both the shogging mechanism and the pattern mechanism are controlled by a chain which ratchets one link to a course, so that it is possible to change both types of patterns every course.

Another feature of the machine is the concealed wrap attachment. This makes it possible to eliminate all vertical or horizontal floats which usually appear in the inside of the stocking when the wrap yarns are not engaged in making patterns. With this attachment, all needles are wrapped at every course and the yarns which are not selectively plated to form a pattern are concealed in the back of the fabric. The resulting fabric has, besides its lack of floats, a ribbed appearance and considerable elasticity.



Wear-testing machine causes three distinct forces to act on fabric



Machine for measuring wear of fabric

Although this type of hose has been manufactured abroad on semi-automatic machines, it is stated by the manufacturers that this is the first fully-automatic, individual-needle-wrap machine with yarn change and a bobbin for every needle.

Carpet Wear Testing Machine

DEVELOPMENT of the machine for testing the resistance to wear of carpets and similar floor coverings is announced by the U. S. Bureau of Standards, Washington, D. C. The wearing forces are chosen to produce the bending, slipping, twisting, and compression of the pile which takes place when a carpet is walked upon.

A circular sample of the carpet to be tested is tacked on a turn table which is brought to bear upon two leather-covered wheels. A motor drives one of the wheels which, in turn, revolves the turntable. The other wheel acts as a brake and causes both wheels to slip on the carpet as it rotates. A vacuum cleaner removes the material which is worn off. The wear on the carpet is produced by a downward force, a horizontal stress, and a slight twisting motion. These forces have definite values and may be varied. The rate of wear is evaluated by measuring the change in thickness of the pile of the fabric with a sensitive thickness-gage as the test proceeds.

This machine is expected to be useful for studies of the effect of various factors on carpet wear and for studies of the relation between the composition and construction of carpets and their resistance to wear.

Hosiery Display Forms

HOSIERY display forms in three models have been developed by the Fashion Form Co., Ambler, Penna. These forms are of a frame type cast from a hand-polished, resistant aluminum alloy. The conical stems of the "Upright Fashion Forms," the first type, are inserted in a wooden base and can be easily assembled. The forms are reinforced in the most exposed heel and toe portions. An advantage cited for these forms is their attractive appearance. They are said to show no rings or luster in the hosiery, but emphasize, it is claimed, the texture and fancy features of the stockings.

"Tip-Toe Fashion Forms," the second type, are connected to a suitable base and are set in a normal position, that is, with the toe downward. They can be arranged in pairs for the display of children's hose. The third model, "Triplet Fashion Forms," are recommended for displaying color arrangements of hosiery and different patterns of golf hose. Men's hose are preferably displayed on Tip-Toe Fashion Forms.

Typical fashion form display

Guard for Sewing-Machine Needle

TO PROTECT the fingers of sewing-machine operators, an ingenious needle guard has been developed by Jacob Selenkow, 45 W. Grand St., New York. The guard consists mainly of an inverted steel cone which surrounds the point of the needle and is open at the front to prevent breaking of the thread. The cone is held by a small vertically sliding piece on the "foot" of the machine. When the needle is to be threaded, the guard may be pushed up, and it is held in that position by a small spring. When the machine is started, the guard is automatically released by the needle and falls into position. In order that there will be no obstruction to the up-and-down motion of the needle within the cone, the setscrew ordinarily used to hold the needle is replaced by a thumb screw surrounding the needle and forming a compact unit with it. This compactness permits the use of a guarding cone of small diameter which does not appreciably obstruct the light or interfere with the operation of the machine.

Castrolite

THROUGH its research department, Royce Chemical Co., Carlton Hill, N. J., has developed what is stated to be a sulfonated castor oil of exceptional purity. It is produced by a special sulfonation process and is not bleached. It is said to have a good degree of color, clarity and purity, and is being sold under the trade name of Castrolite.

Showing three attractive patterns from Holeproof's new fall line.

When HOLEPROOF says "OK"

. . . it means *hosiery production* on a basis of SALES LEADERSHIP

Holeproof Hosiery Company has said "O.K." to orders for Banner Wrap Stripe Machines five times in the last three years. Holeproof's first order was placed in 1928. Since then, operating successes have caused the installation of *four re-orders of these machines.* Nothing could so well prove the exclusive merits of these Banner machines as the successful sales results achieved by this leading mill of international reputation.

HEMPHILL COMPANY, PAWTUCKET, R. I.

General Sales Office and Machine Exhibit, 93 Worth St., New York, N. Y.
Philadelphia, 215 South Broad St. High Point, Commercial Bank Bldg.
Chattanooga, James Building

BANNER WRAP STRIPE MACHINES

knit a perfectly plated body fabric with any yarns or combinations.

- **they have all the color changes and steps that are ever required for practical patterning.**
- **they provide for color change in every vertical, if desired.**
- **they provide for pattern change in less than half the time required on any other machines of the same type.**
- **they have more than three years' successful mill experience.**

TEXTILE WORLD ANALYST

Consumers Demand Better Designing of Fabrics

An interview with Alfred D. Israel

FABRIC designs or styles come, and stay a while, and then are superseded by others which are, or impress the consumer as being, new. How are these fabric patterns originated? When they are shelved for succeeding designs and styles what becomes of them? Can they be taken out of the moth-balls and camphor and used to advantage again?

One of the best-informed men to answer these questions is to be found in New York. He is Alfred D. Israel, who has been in the fabric design business for more than 45 years and engaged in the textile business for more than half a century. During this time he has collected what is doubtless the largest group of fabric samples in the world. He has 30,000,000 of them in his establishment, many going back a century or more, showing, for example, the sort of goods which went into our grandmother's leg-of-mutton sleeves. One of his sample books is dated 1824.

Consumers should be studied more carefully by fabric designers, and a stronger effort made to give them what they want rather than what designers or manufactures think they should wear, Mr. Israel believes. "The wearer is becoming color and style-conscious and manufacturers must recognize it," he said.

"Garment manufacturers pay *their* designers large salaries and in many instances they are made partners so that they will not leave the firm to go to a competitor," Mr. Israel pointed out. "These men do nothing but design or style. I know a case of one young textile school graduate who could not find a position as designer anywhere. Finally he was engaged by a clothing house in New York. When they found out what he could do in designing, he was made a member of the firm.

"Designing is an art. It requires many qualities to make a notable success. Among these may be mentioned (1) good taste, (2) imagination, (3) infinite patience, and (4) love of the work. A good designer must be a dreamer. Few others experience the thrill of a designer when he sees a garment made of goods he has designed.

"One reason textile fabric designers do not accomplish all the industry expects of them is because in many concerns they are compelled to do work that is out of their line. They must do everything but sweep the floors and wash windows. Designing is an art and if we are to meet consumers' wishes, our designers must be encouraged and given a fair opportunity to turn out adequate ideas."

It is a detriment to the trade, he believes, to have the same designs in low priced and in the more expensive goods. Manufacturers of fine goods should not buy what they know is being used in lower priced fabrics, Mr. Israel said, but he finds that several do so.

He says that most of the novelty fabrics which are attracting attention today are not really new, but are adaptations of designs which were popular ten or more years ago with a different and modernized use of colors.

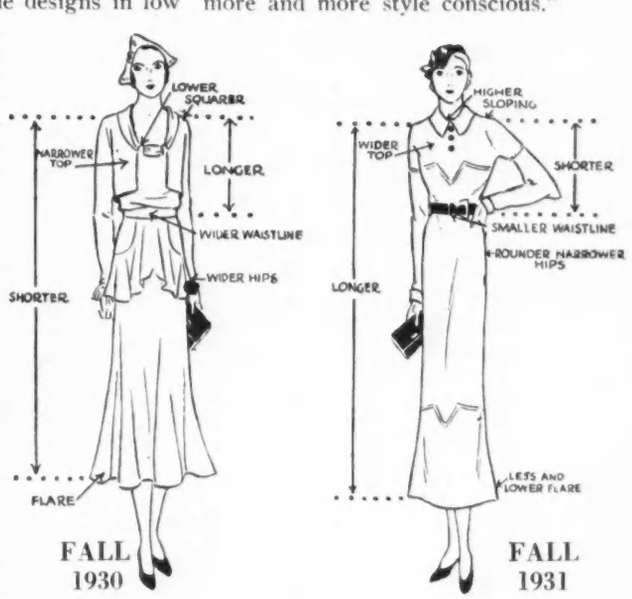
"I have samples in my collection used 30, 40 or 50 years ago that are similar to those that are being made today," Mr. Israel asserted. He has recently sold to a prominent manufacturer a number of styles which are over 10 years old and one for woolen goods that is over 40 years old. History is constantly repeating itself in fabric patterns and the vogue of today is likely to be back with us in 1941 or later.

Mr. Israel finds that neat patterns are the vogue in men's wear at present; small weaves are among the lines that are selling well in multi-color twists; mohair mixtures are being used.

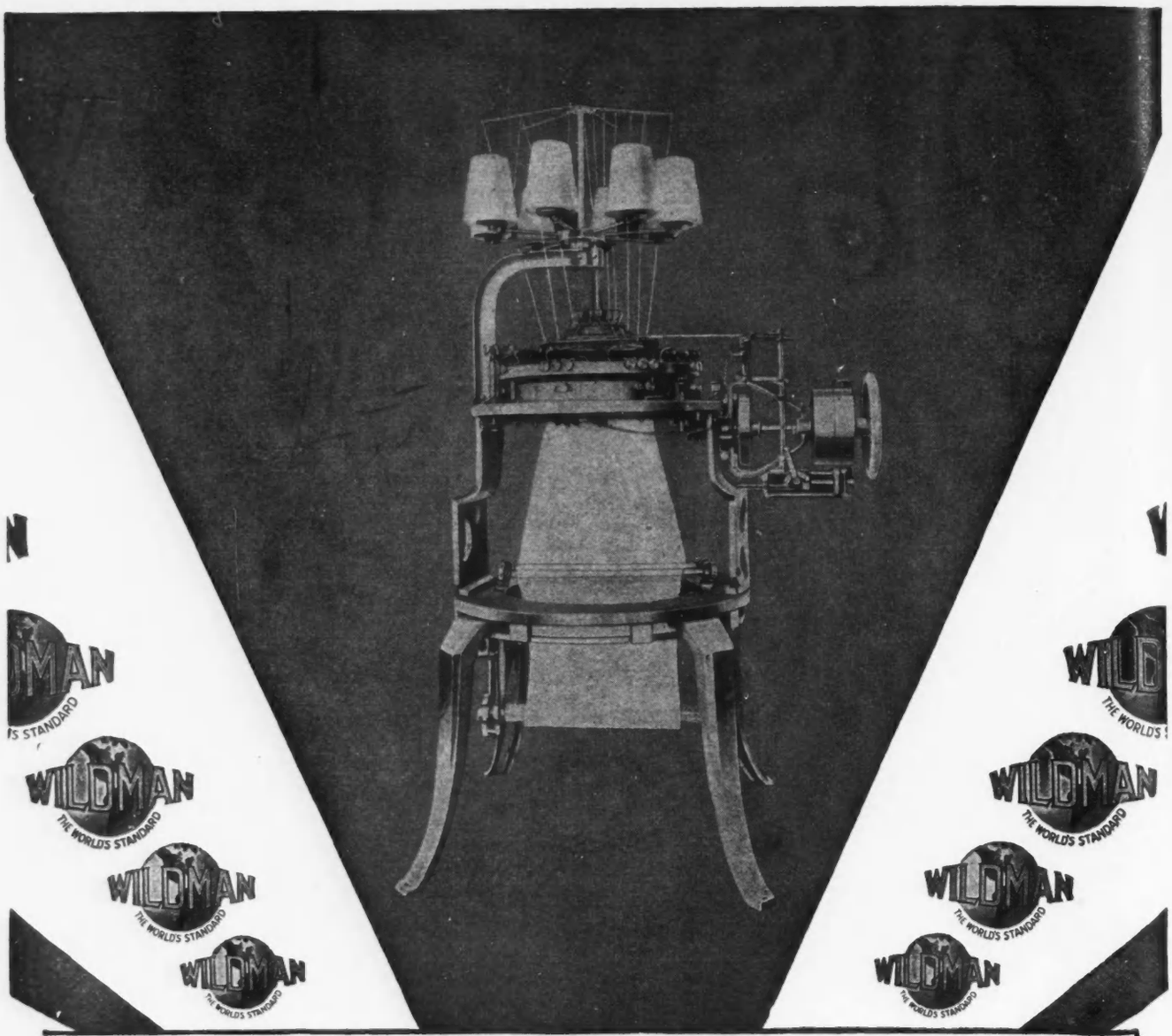
He sees a good demand for the rough surface, nubby dress goods which are wanted in blues, browns, tans and greens. Plaids are coming back, Mr. Israel says, mainly because they were not suitable for use in short, narrow skirts that were formerly the style. With longer and wider skirts the use of plaids is logical, he says.

Tastes of the American public have changed radically during his half century experience and are still changing, and this has usually been for the better, Mr. Israel asserts. The public constantly demands better designed fabrics, and this trend, he said, is more apparent at present than formerly. "It brings with it," he added, "greater responsibilities for the manufacturer, particularly in his designing.

"Manufacturers and designers must study what the consumer has in mind and do his best to supply it. Manufacturers must give more attention to their designing departments and to their designers, realizing," he concluded, "their greater importance in the successful merchandising of fabrics at present, when customers are becoming more and more style conscious."



How the silhouette has changed in a year—fashions of fall 1930 vs. fall 1931—as shown in the Amos Parrish Fashion Merchandising Clinic in New York, July 20-23



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YARNS AND RAW MATERIALS

TEXTILE WORLD ANALYST

◆Cotton Yarns Find Limited Sale

QUIET rules in cotton yarns this week. Yarn dealers declare the market has assumed a waiting attitude, pending definite developments. Demand for yarns is almost entirely restricted to small purchases for immediate needs. Further indications of the limited stocks in manufacturers' hands are seen in the numerous requests for shipments by express. These are said to be more frequent than usual and sometimes have called for as much as 5,000 lb. In one instance such a shipment was made to a mill in Wisconsin.

Yarn dealers express confidence in the ultimate development of business. They feel there is a good demand for yarns just below the surface, awaiting favorable conditions. However, with uncertainty prevailing in foreign markets, as well as the usual watchful observance of cotton at this season, buyers have had little encouragement to operate.

With limited sales, yarn prices naturally are showing occasional tendencies to concessions. On the other hand, spinners generally are not yet willing to yield. It is pointed out many yarn prices are more nearly based on 8c. cotton that on prevailing prices. Therefore, dealers state they find it difficult to persuade spinners to accept most of the offers submitted. As a matter of fact, spinners are in rather better position as regards orders than they were some months back. In addition curtailed operations are having their effect, and every week hears of more mills either closed down, or operating on reduced schedules. Yarn factors also assert they have less yarn forced upon them by spinners.

With reports of slight concessions in prices, one house found it impossible to get a spinner to accept an offer of 17c. for 14s single carded cones; for 10s prices are noted at 16½ to 17c.; 20s at 19½ to 20c. Specifications from underwear mills are reported as very satisfactory, so that this branch of the trade is regarded as very encouraging, although no future business of consequence is being done now. Hosiery buying is very limited.

Carded weaving yarns are very quiet with only scattered buying of small lots as required. Sales could be made of 20s two ply at 18½ to 19c., but 19c. seems to be the lowest price acceptable to spinners and that is not always easy; 30s two ply are less active at 23½ to 24c. However, there is really not enough buying at the moment to indicate just where values are.

Mercerized yarns are quiet with few sales worthy of note. Specifications continue to come in slowly from hosiery mills. Yarns for specialties are offering some of the scattered business reported. Prices are unchanged from the levels previously noted. Combed yarns in the gray, while regarded by many as in better position than carded yarns, are showing price irregularities which many dealers find hard to explain. Competion apparently is the cause for this situation. However, 10s single are usually noted at 24½ to 25c.; 18s at 27½ to 28c.; 30s at 34½ to 35½c. Ply yarns are held rather more uniformly, but sales are limited at this time.

◆Cotton Eases on Favorable Crop News

EUROPEAN developments lost their influence as the chief factor in the cotton market last week and prices responded to a greater extent to weather and crop reports than possibly had been the case at any time earlier in the season. The appearance of clearing weather over eastern and western portions of the belt combined with a continuation of generally favorable crop advices attracted liquidation or selling for a reaction from foreign, local and southern sources. In general there appeared to be an expectation that the end-July private crop reports would make a favorable showing and the selling appeared to be partly in anticipation of these reports as well as a belief that southern hedge selling would increase in volume as the crop movement got under way. The declines carried the market into new low levels for the season toward the close of the week with December reacting from around the 9½c. level to about 8¾c. compared with 10.44c., the high price touched on the late June rally.

Market Briefs

Cotton: ***Market declines to season's lows.***

Cotton Yarns: ***Very little trading.***

Cotton Goods: ***Little buying, but tone is firm.***

Wool: ***Market steady and satisfactory.***

Worsted Yarns: ***Upward price tendency noted.***

Woolen Goods: ***Suitings continue active. Extended season expected.***

Silk: ***Strike causes hesitancy among broadsilk mills; some reselling.***

Silk Yarns: ***Thrown and spun silk both sluggish.***

Silk Goods: ***Good fall movement. Cantons strong.***

Rayon: ***Fall shortage of yarn regarded as certain.***

Knit Goods: ***Hosiery prices stronger; fair movement. Heavyweight underwear in good call. Swimsuit mills plan 1932 lines; winter sweaters improve.***

Although rainfall during the week was considered excessive in parts of the belt, particularly in south Texas, and in parts of the Mississippi Valley, the precipitation was considered generally beneficial elsewhere. This may have been offset to some extent by rank growth and considerable shedding in former dry areas. On the whole, however, the weather was considered favorable. A private crop reporting authority reports damage from weevils in the southern half of the belt is confined largely to late planted fields and to the top crop in early planted fields, except in the coastal plains area of Texas where excessive early season precipitation favored multiplication of the pest. A very spotted infestation is reported in nearly all areas of the northern half of the belt and, it is said, should showery conditions continue through August, a rapid increase of the pest would occasion a very considerable amount of damage. According to a report of the South Carolina Experimental Station, while cotton is growing and fruiting rapidly in all sections of that State, weevils are increasing at a greater rate than the squares and bolls.

No private crop reports have made their appearance, with the exception of an estimate by one authority for the five large producing states of the western and central belts. This estimate, as of July 20, called for a production of 9,050,000 bales in Texas, Louisiana, Arkansas, Oklahoma and Mississippi, which would compare with an out-turn of 7,945,000 bales in the same States last year. The increase was largely confined to Texas and Arkansas which were affected adversely last year by the drouth. However, other advices indicated that the early crop in south Texas, particularly in Nueces County, would suffer a heavy reduction from early favorable prospects owing to excessively heavy rains which had caused floods. Some ideas in the trade appeared to be crystallizing around a crop of 13,000,000 bales.

There appeared to be some uncertainty as to what statement the Farm Board would make on August 1 with reference to the stabilization holdings of cotton amounting to something like 1,300,000 bales, and at the same time an announcement of the American Cotton Cooperative Association as to the amount it would advance to farmers on the new crop was being awaited. According to the New York Cotton Exchange Service, world consumption of American cotton in June amounted to 939,000 bales, compared with 949,000 in May and 887,000 in June, last year. Total consumption in the eleven months of the season ended June 30 was about 10,221,000 bales against 12,148,000 in the corresponding period last year. Assuming a normal seasonal decrease in

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More than one textile mill, faced with the problem of producing a new type of merchandise, has "put it up to" a Brinton man and our experimental department—with extremely satisfactory results. For Brinton makes—or will make—precisely the Knitting Machine you *want*. Brinton makes many types of Rib Knitting Machines and Open Top Jersey Knitting Machines in all diameters. Remember, the experience, knowledge and inventive genius of Brinton Engineers, gained working with mills in all part of the World, is entirely at your disposal.

RIBBERS—of every type.
JERSEY MACHINES—Plain and Fancy Stitches.
RIB BODY MACHINES—for underwear and bathing suits.
SWEATER MACHINES—Rib and Jersey types.
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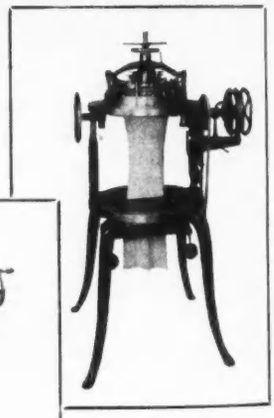
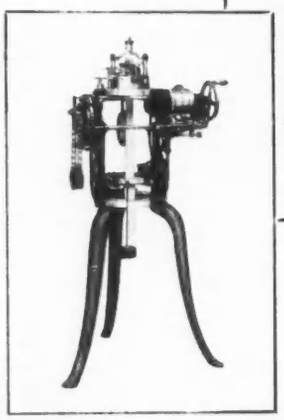


Plain Rib Body Machine



Single Feed Ribber

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of EVERY Kind for EVERY Purpose

YARNS AND RAW MATERIALS

TEXTILE WORLD ANALYST

the consumption rate this month, the total for the full season is expected to amount to about 11,100,000 bales.

MEMPHIS MARKET QUIET

MEMPHIS, TENN., July 27.—Business in the cotton market here has tapered off to almost nothing. There has not been a sale out of local factor stocks since July 10; f. o. b., sales were light. Sales for the week totaled 1,520 bales against 2,903 last year and 1,360 the year before, making 726,865 bales for the season against 1,017,283 last year and 977,887 the year before. A few small orders for immediate shipment are being booked but more are being declined because types of specialties wanted, mostly by mills in the Carolinas, cannot be found except in the hands of a few of the larger merchants whose asked basis is regarded by other merchants as prohibitive. Basis remains unchanged from the previous week. Interest in new crop shipments has seldom, or never, been so meager at this season, with the beginning of the new crop movement not much more than a month away. Forward bookings usually are larger than merchants are willing to admit, and that may be the case this year; in any event bookings are extremely small. Merchants are more than pleased to await crop and trade development, but there are some expressions of apprehension in regard to demand with relation to the new crop movement. The weather during the week was showery over most of the belt, particularly in the central belt where much more rainfall than was needed was received. Opinion is in conflict as to whether the crop has been damaged; plant growth was rapid but fruiting was poor. So far there has been little complaint of shedding, which was feared.

◆Cotton Wastes Dull; Prices Nominal

THERE are no new developments in the cotton waste situation. With the possible exception of a fairly steady call for upland and choice peeler strips, demand is of a hand-to-mouth character, consumers picking up odd lots of comber or other waste only when they have need for it to complete business already booked.

In such a market prices, of course, are largely nominal. Flat prices for peeler comber fluctuate from day to day in sympathy with the ups and downs in raw cotton, the range early in the week being around 7-7½c. Strip prices are firm, choice lots of peeler selling at par with comber. Threads are fairly steady, white slasher selling around 5¼-5½c.

◆Worsted Yarns Tend to Rise

FURTHER indications of strength in raw wool are having their effect on worsted yarns. There is a decided tendency upward in yarn prices, but also some reluctance to force the issue. However, with a strong demand for fine and three-eighths wools and higher values, especially on the latter grade, spinners are carefully studying the narrow margin between wool costs and yarn prices. For example, with 64s tops costing from 80 to 85c., according to how recently the raw stock was purchased, a price of $1.35 to $1.37½ for 2-40s leaves very little room for profit. This case is typical, while in three-eighths grade it is more pronounced, tops costing around 70c.

With steadily improving demand for yarns there is naturally some hesitancy to risk checking business by advancing prices, inevitable as that might be. However, certain spinners have already quietly taken the step; others have withdrawn prices from their agents, and a few factors have refrained from further solicitation of sales for the present. From this it can readidly be appreciated the stage is being set for a higher basis of values. Spinners have been doing quite a good volume of business now for some months, but have registered bitter complaints at the lack of any profits. Competition has been responsible for this to a large measure, so it is hoped the trade has had its lesson and will proceed to operate on a proper cost basis. What would seem to be still another straw to indicate the direction of the wind, is the fact certain spinners have ceased to offer yarns in the special grades at 92½c. for single 18s slub dyed. Average quotations today are 95 to 97½c.

Certain men's wear mills are reported to find duplicate business slowing up, which is natural at this time. Sales are noted of 2 30s double and twist in solid blue, and blue and white, with prices from $1.37½ to $1.42½, according to grade and combinations. Fancies also have found call in 2/30s. The outlook for the coming season is regarded as very satisfactory. Dress goods mills are still operating in scattered fashion, certain mills being well engaged and others still waiting for complete returns. Interest is reported in 2/50s Bradford, 64s quality in solid colors at about $1.40. Indications are also reported of a return of interest in ratine fabrics after a period of about ten years, with Bradford yarns of 3,100 yards description an important factor. Hard twist worsted and silk yarns made from single 21s and 2/40s for crepes have been active in winding up of this business.

Prospects for sweater business continue very good, with sellers reporting a good volume of hand-to-mouth buying. Manufacturers of these lines are well engaged. Sales of 2/20s in 50-54s quality are noted at 82½c., with lower prices reported for lower grade stock. Single 18s at around 95c. have been selling well for sport coats which are active. Manufacturers of the better grades of bathing suits, especially for the Florida trade are reported already starting work on lines to be out between August 1 and 15.

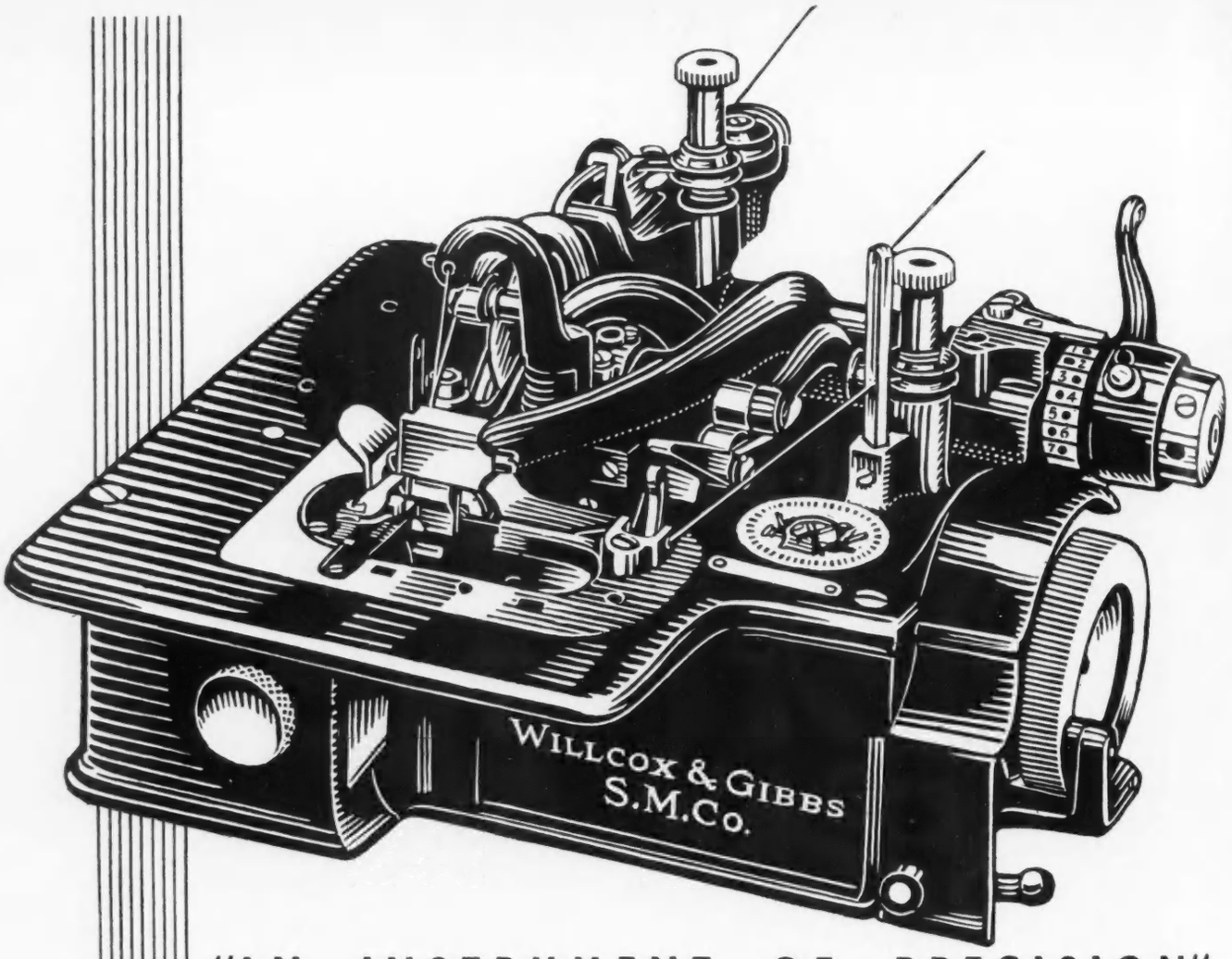
◆Cheap Domestic Wool Boosts Worsteds

DEMAND for wool has moderated somewhat. Last year's carryover is all out of the way except in the case of Texas and similar short wools. Mills having bought considerable quantities of wool of late are not showing quite so active a buying interest in the market, but are centering their efforts upon speeding up deliveries of wool purchased.

How low wool is may be seen by a comparison of indexes. The year 1926 is a favorite base year for statisticians, being used by several government bureaus and also by Irving Fisher in his weekly index figure covering 200 U. S. commodities. Taking TEXTILE WORLD average prices on Montana fine and fine medium, and on Ohio three-eighths and quarter blood wools as equal to 100 in 1926, the relative cheapness is shown by the fact that the index for July 1931 was 71 for 200 U. S. commodities as against 56 for fine and fine medium Montana, and 52 for Ohio.

It seems evident that a large amount of wool is passing through the combing mills on its way to the manufacture of worsted fabrics. So busy are many of the combing establishments that they are actually turning down business offered. The better prices now being obtained on new clip wool will, in the long run, if top making continues anywhere near current rate, bring about an advance in these commodities. Three-eighths blood tops are now in better demand and, as it is difficult to get immediate supplies of graded wool, this top may move to a better selling level. Strictly staple fine 64-66s quoted 83-85c. for the first half of July was advanced to 86c.

The worsted industry is working at high pressure, not a few mills running day and night in the endeavor to meet delivery requirement of buyers. For the benefit of the wool market as a whole, therefore, a broadening in goods demand to include more fabrics of the woolen order seems desirable. Pend-



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YARNS AND RAW MATERIALS

TEXTILE WORLD ANALYST

ing such an outcome, the wool market progresses only slowly in strengthening of values. Some houses already report quickened interest in scoured wool, but low bids are made by prospective buyers.

The closing of the fourth series of London wool auctions was very generally on the high level of the sales. Greasy merinos more than made up the decline seen at the opening. There was a very firm close, crossbreeds also recovering part of their losses. American buying was negligible, not more than 500 bales. Although prices made on the closing day were strong as related to the auction itself they were nevertheless very low from the Colonial and London broker standpoint.

◆Rags, Noils, Wastes in Moderate Demand

DEMAND for wool substitutes from the carded woolen and felt industries is below normal, but slightly more promising than at the beginning of July. The low level on which virgin wools for woolen mills have been sold has forced the rag and reworked industry into a very secondary position. Improvement, nevertheless, is beginning to show itself and already graders, sensing some turn for the better, are buying mixed rags more readily.

The reworked wool manufacturer, in his attempts to secure business, has one great advantage in the very low prices at which desirable rags can be purchased. No marked expansion in demand, however, is visible at the moment and yet the situation if anything is more confident. There is a feeling spreading in textile circles that the wool industry at this time is too one-sided, and that, in order for the industry to maintain itself satisfactorily, some broadening out must occur in the near future so as to bring about not necessarily a decrease in worsted manufacturing but a decided expansion in woolen manufacturing.

Wool waste dealers are still hampered by a very indifferent demand and find the selling of wastes in competition with the lowest wool market in years an unusually difficult proposition. There is nothing to choose between white and colored stocks at this time. Both alike are selling in very restricted volume. An exception might be made in the case of white threads which when garnetted offer a peculiar type of fiber different in its effects to either virgin wool or the soft wastes from worsted manufacturing. One large house quotes 50c. for domestic fine threads but in other places 53c. is asked and up to 55c. for particularly choice lots. The supply of imported threads is quite small. French threads, mixed single and two-ply, are quoted at 60c.

◆Strike Impedes Call For Silk Yarns

DEMAND for silk yarns is at a low ebb this week, due partly to the normal mid-summer lull, and partly to the hesitant feeling created in the broadsilk industry by the strike developments. Throwsters are getting occasional small orders for organzines, all for immediate delivery, but there is no interest in either crepes or trams. Weaving mills are producing moderately and on a strictly hand-to-mouth basis, while hosiery knitters are carrying on with the fair-sized stocks of yarn already in hand. Throwing is light, and throwsters' stocks are fair. All current orders are of the bargain type and throwsters, as a whole, are waiting for August, in the hope of improvement.

The spinners' situation practically duplicates the above, except that here demand is even lighter. The call from wool goods mills has slackened, and broadsilk firms still turn a deaf ear to coverage for fall or spring requirements. Some spinners have a moderate amount of advance business, but the industry as a whole is in the doldrums, hoping that the turn of the month will stimulate activity. Stock in spinners' hands is light.

◆Strike Causes Raw Silk Reselling

THE silk strike has accentuated the prevailing hesitancy in the raw silk market, and the outlook for August depends considerably upon labor developments. Backward buying last week brought a mild recession in primary market prices, but a new firmness in Japan sent them up again this week; 13/15s advanced 10c., and 20/22s advanced 5c. However, prices apparently are no issue at present, as neither up nor down trends have any effect on demand. Broadsilk mills normally should be covering for fall requirements. They have very little raw silk on hand and, assuming the usual fall output of fabrics, they will have to buy soon. They are already some weeks behind in covering and also in production. The silk strike has made them more hesitant than ever, and the first half of the current week was a blank so far as raw silk sales to weavers were concerned.

Hosiery mills are somewhat more active. These knitters were in the market this week for moderate stocks; the orders were for spot and nearby shipment and all were of the fill-in variety.

The silk strike is a decided disappointment to importers, as their own market had just shown signs of stabilizing. Prices have gradually been getting to a level that would stimulate business and also give a profit. Yokohama is still too firm and selling prices there are so high as to make profitable trading here difficult. Importers in New York do not look for any big recessions; they believe the American market may adjust itself to Japan, partially at least, once broadsilk mills start their belated fall production on a big scale.

One early development of the silk strike has been the reselling of raw silk by mills which have been compelled to close. Numerous units had fair stocks on hand; as they cannot move their looms, they are offering their raw silk stocks to the highest bidder. This has naturally slowed down the movement of importers' stocks somewhat, but it is not being done on a big enough scale to have serious effect.

◆Fall Rayon Shortage Viewed as Certain

CURRENT estimates of rayon yarn sales indicate that the July total turnover has been well above that of June. Since August normally exceeds July, and marks the turn toward active fall buying which would approach a seasonal peak in September, producers now regard a mid-fall shortage as virtually a certainty. Several leading producers have instructed their salesmen to discourage new accounts, because of the expectation that they might have to discontinue such accounts in a month or six weeks.

Rayon output is now very close to capacity; numerous companies are producing at 100% and others operate at 90%. Present sales run parallel with production, thus allowing for no accumulation of stock which could take care of the expected August increase in demand. It is pointed out that rayon firms cannot spin what they sold in spring, as spring business absorbed the year-end surplus. Fall demand should be at least as good as spring; and there is a fighting chance it may be well in excess of that season; however, even if the two seasons tallied in demand, producers would be unable to fill belated orders.

Manufacturers are slow in realizing the significance of the above picture, and rayon producers have difficulty in getting their customers to book ahead. A few important weaving and knitting mills are placing orders for late August, but these are a negligible part of the total.

It is further indicative of the tightening trend that crepe yarns, which were the only slow-moving line among the popular rayons, took on new activity last week and sold steadily into the current week.

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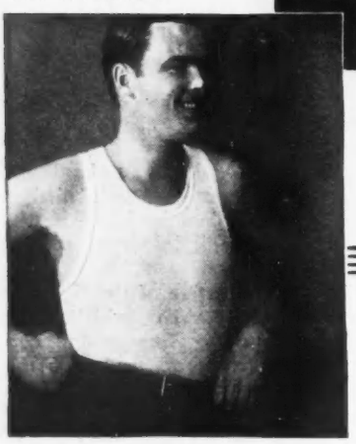

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Durene socks for men are soft and fine, attractive and long-wearing. From The Belmont Hosiery Company, Inc.

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AMERICAN YARN AND PROCESSING CO., MOUNT HOLLY, N. C.
DIXIE MERCERIZING COMPANY, CHATTANOOGA, TENN.
HAMPTON COMPANY, EASTHAMPTON, MASS.
CLARENCE L. MEYERS, INC., PHILADELPHIA, PA.
SPINNERS PROCESSING CO., SPINDALE, N. C.
STANDARD-COOSA-THATCHER COMPANY, PHILADELPHIA, PA.

FABRIC MARKET REPORTS

TEXTILE WORLD ANALYST

◆Broadsilk Trade Watches Strike

MOVEMENT of fall broadsilk lines gains daily, and stocks are so light in certain of the popular cantons, that mills have difficulty in making shipment.

The strike situation, reported in detail elsewhere in this issue, has not affected the selling market, as yet, but manufacturers are watching the situation closely. The walk-out has closed mills in Paterson and New England, and some weavers are reselling their raw silk stock, fearing a long period of inactivity. Broadsilk manufacturers not directly affected are inclined to welcome the strike as serving to curtail output and thus making for a seller's market in fall.

RETAILERS ACTIVE

Current demand appears to come more from retailers than from cutters, though the latter are shopping around actively and are expected to place substantial business soon. The call for transparent velvets is approaching the high-pressure point with some mills; stocks are fairly plentiful, however, and the manufacturers have no difficulty in making quick shipments. Inasmuch as many cutters-up and retailers have not yet placed their initial fall orders, prospects point to a spirited movement of velvets in August, and some mill men claim production may not be able to keep up with demand. The sheer velvet market was highly encouraged last week-end when a foremost mill announced an 18c. increase in all prices.

Satin crepes in the $1.50 range sold steadily all week, and stocks were light. There seems to be plenty of the low-priced crepe available, such as 75c. up to $1.15, but the demand at that end is not so active. Retailers are more interested in quality than they have been, and they find difficulty in getting spot shipment of the more favored shades in $1.50 crepes.

Broadsilk market tone is firm, and prices are steady, with an upward trend. Cutters grow gradually more confident for fall and the next few weeks are expected to see a significant pick-up in orders for fabrics.

◆Cotton Goods Mills In Healthy Position

THE current week opened quiet in cotton goods, with the trade disinclined to look for any improvement before the middle of next week. Prices generally held their levels, though a slight recession in raw cotton sent some quotations ⅛ to ¼c. down; the weakness was regarded as temporary and was confined to the second hand group; it was due to desire of some second hand sellers to effect quick turnover. First hand sellers are holding to list, and are getting a fair spot business, mostly fill-ins. Print cloths move steadily, though in no great quantities; sheetings and drills are quiet.

Mill agents are confident of the outlook. The trade is in a good position, thanks to the exceptionally good business placed during June; much of the June coverage was four to six weeks delivery and shipments on these orders are still being made.

Mills have small stocks, print cloths, sheetings and drills being especially light; and production is being carefully watched. August is expected to mark the renewal of spirited fall coverage. Agents expect to write substantial September-October business within the first two weeks of the month. They report a confident tone among distributors regarding fall, and are getting many inquiries. Distributors are not acutely in need of stocks as many of them bought ahead last month; but the retail movement of print dresses has been active, and some last-minute demand for these cloths is looked for soon.

The scope of the June buying was much larger than had been appreciated at the time, and it has put many mills in the position of being able to pass through both July and August with minimum business. The trade is now well ahead of itself on major lines and whatever active buying August may bring will be just so much velvet. The real needs of the market are not expected to develop until September.

◆Little Interest in Wool Goods Openings

THE wool goods market is marking time. Cutters of men's suitings have slowed up somewhat on their orders, pending delivery of fabrics already contracted for. These advance orders now are being shipped actively, and cutters are expected to resume buying in another week or ten days. Consistent with the general buy-as-you-make policy, cutters prefer to repeat their purchases frequently, rather than place substantial orders. Suitings demand shows little change, as regards style preference; the current let-up in sales is regarded as normal for mid-summer, and mills expect the lull to be much briefer than usual. Suitings houses are still behind in deliveries on certain preferred fall fabrics, and are operating at capacity.

Stocks in mills are very light; the question of the much-talked-of overproduction will depend largely on August buying. Usually this month sees fall sales beginning to wane, but the current season started a month late, and even then it developed slowly, and it is expected that fall lines will be in active call not only throughout August but well into September.

Naturally enough, in such a case, neither buyers nor sellers are much interested in fall openings. Mills have begun to plan their lines, but opening dates have not been set and some firms have not even considered them. Buyers are very indifferent regarding spring. Their attention is focused 100% on the immediate outlook and it is believed that any spring openings prior to mid-September will evoke little or no response.

Tropicals came closer, with the announcement that several leading houses would open their lines about mid-August. Prices of the medium to low-level lines are expected to be below last season, but it is believed that the finer quality tropicals will remain as is.

Suitings producers regard the current season as satisfactory. Prices had been set on the basis of a modest volume, and sales have exceeded expectations, thus adding to the margin. The big question for spring, however, is whether mills will set their new prices on the basis of this season's volume. Such a reckoning might have unfortunate results, as the sales this year were unusually good, and a decline on volume would bring a proportionate decline in margin.

▶World Cotton Loom Statistics

The census of the world's cotton power looms, as of December 31 last, conducted by the International Federation of Master Cotton Spinners' and Manufacturers' Associations, shows that the estimated number of looms in all countries based on actual returns is 2,335,296 ordinary looms, 661,023 automatic looms and 53,459 automatic attachments, giving a total of 3,049,778. Some of the countries, chiefly Japan, China and Russia, did not make any returns and the figures for these countries were obtained from other sources. The United States of America and Great Britain easily head the list of looms, the aggregate total in each country being 698,955 in the United States and 692,899 in Great Britain. Germany has 224,077, France 200,100, Russia 159,100, Italy 146,500 and Czecho-Slovakia 125,000. In Asiatic countries India possesses 179,682 looms, and China 29,582. It is estimated that there are 10,063 looms in course of erection throughout the world.

KNIT GOODS MARKETS

TEXTILE WORLD ANALYST

◆Winter Sweaters Moving Unevenly

HEAVYWEIGHT sweater movement is improving, but unevenly; some agents are doing an active business and have a moderate percentage of their normal turnover already booked, but others complain that their customers are still holding back. Current buying comes chiefly from the large chain groups; these units placed substantial orders this week, and further contracts from others in the same group are expected next week. Sweater mills have begun deliveries, but only on a small scale; the real volume shipments will not start before late August. Prices are firm, and the sweater market is hopeful of a profitable though late season; stocks in mills are light.

Bathing-suit producers now are devoting their attention to planning their new season's lines. Buying has shrunk to occasional spot repeats, and the mills look for a few more flurries of that sort for another ten days. One of the production questions of the new season is whether single or double yarns should be used. It has come to the attention of numerous mills that customers are dissatisfied with certain of the single-yarn suits, complaining that they do not give the required wear. The color effects in the new season's models are expected to offer the chief touch of style change; no radical departures in model are looked for. The backless suit, which made its debut this season was not so enthusiastically welcomed as to prompt any general production of that line. The general feeling among mill men is that women's suits have pretty well reached the maximum of abbreviation and that further style changes must be effected in color and design rather than in cut.

◆Spirited Demand For Fall Underwear

THE heavyweight underwear lines are in active call, and mill agents believe they have now definitely turned the corner. Both large and small distributors are covering actively for August-to-October delivery. Mediumweights also are in good demand. Prospects point to increased buying of heavyweights through the next four weeks, as many important firms have not yet covered; mill agents talk constantly of a shortage next month. One representative factor said that if orders continue coming into his office at the present rate for the next four weeks, the firm will have its output sold for months ahead. He pointed out that stocks in his mills are at minimum and that the ratio of sales increase is greater than the ratio of production increase.

The situation promises to be an outstanding example of the buy-as-you-sell method. Even allowing for the inroad the medium weights have made on heavies, there still remains a very substantial heavyweight market. Heavyweight underwear mills have produced at minimum for the last six months, due to the backwardness of buying. On the other hand, orders which are usually spread across a span of six months now are coming in probably all within a month; even speeding production to capacity, mills may be unable to produce enough to fill orders, and both the manufacturer and the distributor may lose sales thereby.

It is apparent from the sudden increase in buying the last ten days that distributors are coming to realize the situation. Mill agents state that many customers accompany their contracts with inquiries regarding prospects of delivery, in case they should send in repeat orders three weeks hence.

Lightweight underwear also came back to life this week, and there is an active spot call for many types, especially cotton union suits. Rayons are less active than they were, but there is still a steady demand for immediate delivery. Lightweight stocks in mills are reduced to a negligible point and manufacturers are asking two to three weeks for shipment in many instances.

◆Better Hosiery Outlook For Fall

THE hosiery market shows a stronger tone, and the fall outlook seems to have improved. Full-fashioned demand is better than usual for July; much of the distress stocks which depressed the market in May have been liquidated and price-cutting has perceptibly lessened. Distributors are still averse to anticipating wants, but there is a fair quantity of August-September business already on the books. The main danger is that mills may grow overconfident and produce in excess. There is considerable talk of a more moderate price advance, when fall buying assumes normal proportions, and, provided raw silk holds current levels, such a rise is not too remote. However, it is highly questionable whether the market at present could stand any increase. Stocks have been reduced very noticeably during the first half, but there is still considerable surplus, and the only sure road to an advance is continued restriction of output.

Demand for mesh numbers in the popular-price range has eased again, and this is ascribed to the mid-summer lull. Half-hose fancies, especially at the low-price end are very weak; underselling is general, and there is an abundance of distress merchandise available at unprofitable levels. Women's seamless rayon stockings also are weak at present; manufacturers of these lines complain that they cannot move their stocks, except at a sacrifice.

Curtailment of exports, due to depression in numerous of the chief foreign markets, is blamed for the heavy stocks of women's seamless rayons now glutting the market. Foreign sales have declined steadily during recent months, and mills failed to make sufficient allowance for this situation, in regulating their production schedules.

▸Three Methods of Testing Yarn Strength Compared

(Continued from page 41)

tests. The test having the smallest per cent deviation is the most uniform.

According to the theory of least squares, the precision of these tests is equal to the average deviation divided by the square root of the number of tests. Therefore for these tests the precision of the skein test is 48.8 $\pm$ .36 lb.; or the serigraph test, 48.3 $\pm$ .32 lb.; and on the single-strand test, .440 $\pm$ .008 lb. In other words, the skein test is precise within 0.74%; the serigraph test, within 0.66%; and the single-strand test, within 1.81% of the average break.

Now let us suppose that a precision of 0.50% is desired. If we figure back and solve for the number of tests necessary to obtain this accuracy, we shall find that it would be necessary to make 108 skein tests, 85 serigraph, and 595 single strand to meet this requirement.

Conclusions

In conclusion, it might be said that although the three above-named methods are used for obtaining the breaking strength of yarn, they cannot be used interchangeably. Where tests are made for the purpose of comparing the breaking strength of one yarn with that of another or of the same yarn from day to day, the skein test will be satisfactory. However, where some idea is wished as to the strength of the yarn in a fabric, the serigraph test is ideal. Again, when an indication of the single-strand break is desired, and when the actual uniformity of the single break is secondary, the serigraph test is quicker than the single-strand test. But when the actual single-strand strength is wanted with its uniformity indication, as many branches of the textile industry require, the single-strand test is necessary. Therefore each manufacturer should pick the method which most nearly meets his requirements.

◆ Pacific Mills Has Better Half-Year

PACIFIC MILLS reports for the six months ended June 30, 1931, net loss after all charges of $696,050, against a net loss of $1,139,148 in 1930, and net profit of $662,565 before federal taxes for the same period of 1929. The company's income account for the first six months of this year compared with the corresponding periods of 1930 and 1929 is as follows:

	1931	1930	1929
Net sales	$19,189,283	$20,067,781	$24,414,981
Gross profit	315,588	702,863	2,094,996
Depreciation	724,580	723,356	715,750
Int. and amort.	†65,407	42,428	338,817
Inv. markdown or res.	350,000	1,000,000	300,000
Other charges	2,465	76,227	77,863
Total deductions	1,011,638	1,842,011	1,432,431
Net loss for period	696,050	1,139,148	*662,565

*Profit. †Credit.

Treasurer Alfred E. Colby said, in part, to stockholders:

"Net quick assets decreased $248,664 and now stand at $16,224,392. Net sales charged, due to lower market prices obtainable for our products, decreased $878,498 or over 4% as compared with first six months of 1930, while volume in yards or units shows an increase of approximately 10%. The inventory shows an increase of $775,913 reflecting the increased business of fully 14% over last half of 1930. We are continuing our policy of control of production to sales."

Amoskeag to Cancel Bonds

Trustees of the Amoskeag Mfg. Co., Manchester, N. H., have authorized the treasurer to cancel and retire $1,537,000 of the company's own 6% gold bonds held in the treasury. At the close of 1930 there were $1,129,078 of these bonds in the treasury, indicating that approximately $400,000 of bonds have been purchased this year. Retirement of bonds will reduce the 6% issue from $14,000,000 to $12,463,000.

Davenport Hosiery Net

Davenport Hosiery Mills closed the first half of 1931 with an increase in net earnings, despite a 3.1% drop in sales. For the period ended June 30, 1931, the company showed a net profit of $206,704, after all charges, including federal taxes, equal, after preferred dividends deductions, to $2.32 a common share on 75,000 shares of stock outstanding. This compares with a net profit of $152,929, or $1.58 a share, shown in the same 1930 period.

Sales of Davenport in the first six months, totaled $1,632,094, compared with $1,686,310 in the same 1930 period.

In the second quarter of the year Davenport showed a net profit of $108,687, compared with $76,962 in the same quarter in 1930. For the first quarter, Davenport reported a net profit of $98,016, compared with $75,891 in the first 1930 quarter.

An increase of about 66% in net profits was recorded in the month of June, the figure being $37,259, compared with $22,332 in June, 1930.

Joint Century Ribbon Sheet

The Century Ribbon Mills, Inc., and Century Factors, Inc., have made available a consolidated balance sheet, including a six months' profit and loss statement. It shows a ratio of current assets to current liabilities of 3 to 1, and a profit of $102,015, after allowances for taxation and after deducting $51,000 for machinery and fixture depreciation.

Current assets total $3,374,320, which, togther with the fixed assets, give a total value of $5,397,721. Current liabilities are given at $1,074,329, capital stock at $3,690,014, and surplus at $633,378.

Dividends

Wiscassett Mills Co., Albemarle, N. C., at the annual meeting of stockholders and directors on July 21, declared a semi-annual dividend of 5%.

Lillian Knitting Mills Co., Albemarle, N. C., recently declared a semi-annual dividends of 3%.

Receivers Report Progress

Olympia Full Fashioned Silk Hosiery Co., Philadelphia, Pa., has operated at a profit according to report submitted by the receivers appointed Dec., 1930. The receivers asked the U. S. District Court for permission to continue operating the mill for another 90 days which was granted.

Rayon Companies' June Record

Dividends paid by companies manufacturing rayon in June amounted to $1,178,628, according to the Standard Statistics Company, of New York. Total cash dividend payments made by domestic corporations in June were $412,327,778.

Duplan Writes Down Common

Directors of Duplan Silk Corp. have recommended to stockholders that the stated capital of the company be reduced from $11,881,080 to $8,501,600, by reducing the amount represented by the 350,000 no par common shares from $6,879,480 to $3,500,000, or to $10 per share. The difference is to be applied to writing down fixed assets of the company from $7,632,388 to $4,252,908. This action has already been approved by a vote of the majority of the stockholders.

▶ New England Textile Stocks

	Sale	Bid	Asked
Am. Mfg. Co., pfd	52	40	45
Amoskeag	9⅛	..	..
Arlington	18½	24	25
Associated Textile	35–36½	..	..
Bates	60	44	49
Berkshire Associates, com.	12⅜	6	8
Berkshire Associates, pfd	40¼	25	..
Bigelow-Sanford, com.	30	..	..
Boott Mills	120½	70	80
Edwards	80¼	54	59
Esmond, pfd	98	95	99
Farr Alpaca	33¾–34	34	37
Hamilton Woolen	40	38	42
Hill	9	8	11
Indian Orchard	10	5	10
Ludlow	107½	106	108
Merrimack, com.	35	14	..
Nashua, com	7¼	8	10
Nashua, pfd	29	27	..
Naumkeag	71–71½	68	72
Newmarket	16½	13	16
Otis	45	41	45
Pacific	20	..	..
Pepperell	66½	66	69
Plymouth Cordage	63	67	70
York	8⅜	6½	..

▶ Textiles on N. Y. Exchanges

The following shows the movements of the leading textile stocks listed on the New York Stock Exchange and Curb for the week ended July 28:

	High	Low	Last Sale	Net Ch'ge
Adams Millis	25	24	24	+⅜
*American Thread, pfd	3	3	3	..
American Woolen	8	6⅜	8⅜	+1½
American Woolen, pfd	37	30½	37	+5½
Belding-Hemingway	3⅜	2¼	3⅜	+⅛
Botany Mills, A	2½	1½	2½	+⅛
Cannon Mills	20½	20	20	—¼
Century Ribbon	5½	4⅜	5½	+⅜
Collins & Aikman	14½	12½	12½	—1½
Consolidated Textile	⅜	⅜	⅜	—⅛
Gotham Hosiery	10	8⅜	8⅜	—1⅜
Industrial Rayon	31½	29½	29½	+¼
Kayser, Julius	13	12½	12¾	—¼
Kendall, pfd	54½	51	52	+1
*Mock Judson	8	8	8	+½
Mohawk Carpet	14½	13½	14½	+½
Pacific Mills	20	19	19	..
*Propper-McCallum	3	3	3	..
Real Silk Hosiery	7	6	6	—1
*Tubize	5½	5½	5½	..
United Piece Dye Works	21	18¾	18¾	—1

*Listed on Curb

▶ Southern Mill Stocks

(R. S. Dickson & Co., Charlotte, N. C.)

	Bid	Asked
Acme Spinning Co.	47	60
American Yarn & Processing Co.	40	46
Chadwick-Hoskins Co. (Par $25)	5	9
Chadwick-Hoskins Co., 8%, pfd.	80	86
Crescent Spinning Co.	40	47
Durham Hosiery, 6%, pfd.	17	23
Erwin Cotton Mills Co., 6%, pfd.	87	91
Flint Mfg. Co.	..	58
Flint Mfg. Co., 7%, pfd.	83	92
Hanes, P. H. Knitting Co.	7	10
Hanes, P. H. Knitting Co., 7%, pfd.	80	91
Linford Mills	50	62
Perfection Spinning Co.	48	63
Roanoke Mills, 1st. pfd. 7%%	43	55
Rosemary Mfg. Co., pfd., 7%	74	80
Stowe Spinning Co.	40	51
WareShoals Mfg. Co.	..	100
Ware Shoals Mfg. Co., 7%, pfd.	70	85
Winget Yarn MillsCo.	..	42
Wicasset Mills Co.	120	135

(A. M. Law & Co., Spartanburg, S. C.)

Avondale Mills, Ala.	525	650
Bibb Mfg. Co.	84	88
Clifton Mfg. Co.	..	80
D. E. Converse Co.	..	70
Dunean Mills	70	90
Dunean Mills, pfd.	94	98
Gossett Mills	..	31
Hunter Mfg. & Com. Co., pfd.	74	78
Judson Mills, A pfd.	83	86
Judson Mills, B pfd.	79	83
Monarch Mills	70	80
Newberry Cotton Mills	..	82
Orr Cotton Mills	35	40
Pacolet Mfg. Co.	..	60
Piedmont Mfg. Co.	..	75
Riverside & Dan River Mills(Par $25)	7	9
Riverside & Dan River Mills, 6%, pfd.	54	58
Southern Bleachery & Print Wks.,pfd	40	50
Spartan Mills	95	105
Union-Buffalo Mills, 1st pfd.	..	52
Victor-Monaghan Co.	36	38

QUOTATIONS

at close of business, July 29, 1931

Prices cover average qualities unless otherwise stated

Cotton Goods

	July 22	July 15	July 23, 1930
PRINT CLOTHS			
27 -in., 64x60, 7.60	3¾c.	3¾–3½c.	4½c.
38½-in., 64x60, 5.35	4¼–4¼c.	4¼–5 c.	5½c.
39 -in., 68x72, 4.75	5½c.	5½–5¾c.	6¼–6¾c.
39 -in., 72x76, 4.25	6 –6¼c.	6¼c.	7¼c
39 -in., 80x80, 4.00	6¼c.	6¼–6½c.	7¾c
BROWN SHEETINGS			
36-in., 56x60, 4.00	5¼c.	5¾c.	6¼–7 c.
36-in., 48x48, 3.00	5½c.	5½c.	8 –8½c.
37-in., 48x48, 4.00	4¼c.	4¼– 5 c.	6¼–6¼c.
PAJAMA CHECKS			
36½-in., 72x80, 4.70	6 c.	6 c.	6¾–6½c.
36½-in., 64x60, 5.75	5-5½c.	5 c.	5¼c.
MISCELLANEOUS			
Drills, 37-in., 3 yd.	6 c.	6½c.	8½c.
Denims, 2.20	11 c.	11 c.	12½c.
Tickings, 8 oz.	14 c.	14 c.	17½–17⅞c.
Standard prints	7¼c.	7¼c.	8 c.
Eastern staple ginghams, 27-in.	8 c.	8 c.	10 c.

Cotton Waste

Peeler comber	7 – 7½
Peeler strips	6¾– 7
Sak. comber	6½– 7
Choice willowed fly	3 – 3½
Choice willowed picker	3 – 3¼
Sak. strips	9 –10
Linters (mill run)	2½– 3½
White spooler (single)	5½– 6

Cotton Yarn

CARDED (Average Quality)

Double Carded 2c.—4c. higher according to quality

SINGLE SKEINS OR TYBES (Warp Twist)

4s to 8s	$0.16½	22s	$0.20½
10s	.17	24s	– .21½
12s	– .17½	26s	– .22½
16s	– .18	30s	– .23½
20s	– .19	40s ex. qual.	.33½– .34½

TWO-PLY SKEINS AND TUBES

8s-2	$0.16½– .17	26s-2	$0.22½
10s-2	.17 – .17½	30s-2	– .23½
12s-2	.17½– .18	36s-2	– .30
14s-2	– .18½	40s-2	.31 – .32
16s-2	.18½– .19	40s-hi.brk.	.33½– .34½
20s-2	.19½– .20½	50s-2	– .39
24s-2	.21½– .22	60s-2	– .45

SINGLE WARPS

10s	$0.16½ – .17	24s	$0.21½
12s	– .17	26s	– .22
14s	.17 – .17½	30s	– .24
16s	.17½– .18	40s ex. qual.	– .34½
20s	.19 – .19½		

TWO-PLY WARPS

8s-2	$0.17½	24s-2	$0.22
10s-2	– .18	26s-2	– .22½
12s-2	– .18½	30s-2	.23½– .24
14s-2	– .18½	40s-2 ordin.	.31 – .32
16s-2	.19 – .19½	50s-2	– .39
20s-2	.19 – .20	60s-2	– .45

8s-3 and 4-ply skeins and tubes; tinged; 15½–16 white, 16½–17; waste, 15

HOSIERY CONES (Frame Spun)

8s	$0.16½	22s	$0.20½– .21
10s	.16½– .17	24s	.21½– .22½
12s	– .17½	26s	.22½– .23½
14s	.18– .18½	30s tying	– .24
16s	.18 – .18½	30s reg.	.24½– .25
18s	– .19	30s ex. qual.	.26½– .27½
20s	.19½– .20	40s	.32 – .33

COMBED PEELER (Average Quality)

TWO-PLY—(Knitting Twist) Cones

20s-2	$0.29½– .31	60s-2	$0.48 – .49
30s-2	.33½– .34½	70s-2	.58 – .60
36s-2	.36½– .37	80s-2	.68 – .70
40s-2	.38 – .39	90s-2	– .95
50s-2	.44 – .45	100s-2	1.12 –1.15

WARPS, SKEINS AND CONES

TWO-PLY—(Warp Twist)

20s-2	$0.30 – .31	60s-2	$0.49 – .50
30s-2	.34 – .35	70s-2	.61 – .62
36s-2	.36½– .37	80s-2	.70 – .72
40s-2	.38 – .39	90s-2	– .95
50s-2	.44 – .45	100s-2	1.12 –1.15

SINGLES

12s	$0.25½– .26½	30s	$0.32 – .34
14s	.26½– .27	38s	.35½– .36½
16s	.27 – .27½	40s	.36½– .37½
18s	.27½– .28	50s	.42 – .43
20s	.28½– .29	60s	.47 – .48
24s	.30 – .30½	70s	.55 – .58
28s	.31½– .32½	80s	.65 – .68

MERCERIZED CONES—(Combed, Ungassed)

26s-2	$0.47 – .48	90s-2	$1.18 –1.23
30s-2	.49 – .50	100s-2	1.48 –1.53
36s-2	.52 – .53	120s-2	1.88 –1.93
40s-2	.55 – .56	30s	.60
45s-2	.57 – .58	40s	.62
50s-2	.59 – .60	50s	.67 – .70
60s-2	.67 – .68	60s	.77
70s-2	.79 – .80	70s	.87 – .90
80s-2	.90 – .91	80s	1.05 –1.10

Cotton Prices and Statistics

FLUCTUATIONS OF FUTURES

	Closed July 23	—For Week— High	Low	Closed July 29	Net Ch'ge
July	8.99	9.15	8.89	....	....
August	9.02	9.76	8.40	8.30	—.72
September	9.15	9.77	8.54	8.44	—.71
October	9.29	9.48	8.67	8.58	—.71
November	9.40	9.50	8.80	8.70	—.70
December	9.54	9.70	8.90	8.82	—.72
January	9.66	9.81	9.01	8.92	—.74
February	9.74	9.80	9.11	9.02	—.72
March	9.83	9.98	9.21	9.14	—.69
April	9.91	9.99	9.29	9.21	—.70
May	9.99	10.17	9.37	9.29	—.70
June	....	9.77	9.50	9.40	....

SPOT FLUCTUATIONS FOR WEEK

(Middling)

	New York	New Orlean	Liverpool
Thursday, July 23	9.30	9.01	5.01
Friday, July 24	9.00	8.87	4.98
Saturday, July 25	8.95	8.80	4.81
Monday, July 27	8.80	8.66	4.90
Tuesday, July 28	8.55	8.41	4.78
Wednesday, July 29	8.45	8.36	4.72

FOREIGN COTTONS

Egyptian Cotton

Alexandria Exchange, July 28		Change
Nov. Sak	14.29	—1.08
Oct. uppers	10.07	—0.75

Aug.-Sept. Shipment c. i. f. Boston

(Tariff not included)

Fully good fair Sak	16.00
Fully good fair to good Uppers	12.00

(By Anderson, Clayton & Co.)

Foreign cottons	F. O. B. New York, Cents
Peruvian Tanguis Strict Middling	20
Peruvian Pima No. 1	19
Peruvian Moderate Rough	13½
Peruvian Full Rough	17
China Tientsin No. 1	9½
India Rough	7 to 10
India Smooth	7 to 10

(By Truns-Nordeman Co.)

BASIS MIDDLING

	Saturday, July 25	Saturday, July 18
10 markets average	8.38	8.80
Memphis	7.90	8.35

PREMIUM STAPLES

First Sales from Factors Tables at Memphis

Grade Strict Middling	Basis Steady
1⅛-in.	10.85@11.10c.
1 3/16-in.	11.90@12.15c.
1¼-in.	16.85@17.10c.

CURRENT SALES

	For Week	Prev. Week	Week Before
Memphis total	1,520	1,566	1,842
F.o.b. included in total	1,520	1,566	1,616
10 markets	6,968	24,195	8,158

MEMPHIS RECEIPTS, SHIPMENTS, ETC.

	For Week	Last Year	Year Before
Net receipts	637	947	576
Gross receipts	5,975	4,567	5,149
Total since Aug. 1, net	658,566	944,364	863,184
Shipments	14,918	10,412	9,125
Total since Aug. 1	1,427,060	1,883,568	1,846,077
Total stock	111,758	153,762	52,889
Decrease for week	8,943	5,845	3,976
Unsold stock in hands of Memphis factors	12,458	28,393	....
Decrease for week	289	*843	....

*Increase.

AVERAGE PRICE AUG.-SEPT. SHIPMENT HARD WESTERN COTTON

F.o.b. New England

	Middling	St. Middling
1 1/16-in.	11 –11¼c.	11¾–12 c.
1⅛-in.	12 –12¼c.	12¾–13 c.
1 3/16-in.	14 –14¼c.	15 –15¼c.
1¼-in.	19 –20c.	21 –22c.

Basis on New York, October, 8.67

SPOT FLUCTUATIONS AND STOCKS

Markets	Middling July 22	Middling July 29	Sales	Stocks This Week	Stocks Last Year
Galveston	9.05	8.40	1,877	415,394	187,084
New Orleans	9.01	8.36	51	586,338	330,225
Mobile	8.20	7.50	524	217,565	10,509
Savannah	8.68	7.98	1,060	343,808	106,130
Norfolk	8.88	8.19	25	55,107	49,200
New York	9.15	8.45	287	228,378	240,464
Augusta	8.63	8.13	431	64,287	47,897
Memphis	8.20	7.45	1,370	106,272	149,886
St. Louis	9.00	8.15	....	3,936	7,520
Houston	9.00	8.30	857	752,662	532,497
Dallas	8.55	7.90	1,698	6,226	10,712

Liverpool 4.72d.

DIFFERENCES ON AND OFF MIDDLING

WHITE GRADES

	Dallas	Memphis	Montgomery	Augusta	Average
M.F	.75†	1.00†	.85†	.75†	0.88†
S.G.M	.60†	.75†	.75†	.63†	.70†
G.M	.50†	.50†	.60†	.50†	.52†
S.M	.35†	.25†	.35†	.25†	.31†
S.L.M	.50*	.50*	.50*	.50*	.49*
L.M	1.00*	1.00*	1.00*	1.00*	1.00*
S.G.O.**	1.75*	1.80*	1.75*	1.75*	1.75*
G.O	2.40*	2.05*	2.50*	2.25*	2.36*
YELLOW TINGED					
G.M	.40*	.50*	.50*	.50*	0.47*
S.M	.65*	.75*	.75*	.75*	0.72*
M.**	1.25*	1.00*	1.25*	1.25*	1.20*
S.L.M	1.75*	1.75*	1.75*	1.75*	1.75*
L.M.**	2.50*	2.00*	2.50*	2.50*	2.40*
YELLOW STAINED					
G.M	1.00*	1.25*	1.00*	1.00*	1.03
S.M.**	1.50*	1.75*	1.50*	1.50*	1.53
M.**	2.50*	2.00*	2.25*	2.50*	2.33
BLUE STAINED					
G.M.**	1.25*	1.25*	1.25*	1.25*	1.25*
S.M.**	1.75*	1.50*	1.75*	1.75*	1.70*
M.**	2.50*	1.75*	2.50*	2.50*	2.35*

**Grades not deliverable on contract. †On Middling *Off Middling.

Wool

OHIO, PENNSYLVANIA AND WEST VIRGINIA (IN GREASE)

Fine delne..	$0.25½–$0.26½	¾ blood....	$0.22 –$0.23
Fine clthg ..	.21 – .22	½ blood....	.21 – .22
¼ blood.....	.24 – .25		

TEXAS AND CALIFORNIA (CLEAN BASIS)

Texas, 12 months	$0.59 –$0.60
California, Northern	.52 – .53

PULLED—EASTERN (CLEAN BASIS)

A.A.	$0.62 –$0.65	B-Super...	$0.45 –$0.50
A-Super....	.50 – .53	C-Super...	.41 – .43

MONTANA, IDAHO AND WYOMING (CLEAN BASIS)

Staple fine	$0.61 –$0.63
Staple ¼ bld	.57 – .58
Fine and fine medium	.55 – .58
¾ blood	.48 – .50
½ blood	.43 – .46

MOHAIR—DOMESTIC

Best carding	$0.23 –$0.25
Best combing	.31 – .33

MOHAIR FOREIGN (IN BOND)

Turkey fair, average	$0.17 –$0.20
Cape firsts	.18 – .21

FOREIGN CLOTHING AND COMBING (CLEAN BASIS IN BOND)

Australia:	
70s	$0.53 –$0.55
64s	.46 – .48
58s-60s	.41 – .43
(IN GREASE)	
Montevideo:	
58s-60s	$0.19 –$0.20
56s	.18 – .19
50s	.16 – .17
Buenos Aires:	
4s, 40-44s	$0.14 –$0.15
5s, 36-40s	.12 – .14

FOREIGN CARPET (GREASE BASIS IN BOND)

Aleppo washed	$0.22 –$0.24
China: Combing No. 1	.13 – .14
China Filling Fleece	.12 – .14
Szechuen ass't	.12 – .14
Cordova	.14 – .15
Scotch black face	.15 – .17
East India: Kandahar	.17 – .19
Vican'r	.23 – .25
Joria	.23 – .24

Worsted Yarns

ENGLISH SYSTEM WEAVING

2-20s 36s	$0.77½–0.80
2-24s 40s	– .85
2-26s 44s	.87½– .90
2-28s 46s	.92½– .95
2-30s 48s	.95 – .97½
2-32s 50s	.97½–1.00
2-30s, 64s fancy mixes	1.37½–1.45
(Single yarns 5c. less than above)	
2-36s, 58s	$1.22½–1.25
2-40s, 60s	–1.32½
2-40s, 64s	1.35 –1.37½
2-50s, 66s	1.45 –1.50
2-60s, 70s	1.85 –1.87½

ENGLISH SYSTEM KNITTING

2-20s, 44s in oil	$0.75 –0.77½
2-20s, 48s in oil	– .80
2-20s, 50s in oil	.80 – .82½
2-20s, 56s in oil	.92½– .95
2-20s, 60s in oil	1.10 –1.12½
2-20s, 64s in oil	1.20 –1.25
1-18s, 48s dyed	.97½–1.00
1-18s, 50s dyed	.97½–1.00
(Oil yarns 17½c. less)	

FRENCH SYSTEM

1-20s, 58s	$1.05 –1.07½
1-20s, 60s	1.10 –1.12½
1-18s, 64s, dyed	1.32½–1.35
1-26s, 64s	1.12½–1.15
1-30s, 60s, Warp	1.20 –1.22½
1-30s, 64s, Warp	1.22½–1.25
2-30s, 64s, Fancy mixes	1.45 –1.47½
2-40s, 64s, Zephyrs	1.35 –1.40
1-50s, 66s	1.47½–1.52½
2-50s, 66s	1.50 –1.55
1-60s, 70s	1.85 –1.87½
2-60s, 70s	1.90 –1.95

FRENCH SPUN MERINO WHITE

1-30s, 50-50-58s on cops	$ .95 –1.00
1-40s, 50-50-60s on cops	1.10 –1.15
1-40s, 50-50-64s on cops	1.12½–1.15
1-40s, 50-50-64s Australian cops	1.20 –1.25

Underwear mixes, 3 to 5c., Solid color, 35c. additional.

New York Top Futures

	Closed July 22	For the Week High	Low	Closed July 28	Net Change
September	75.00	75.90	74.30	75.50	+.50
October	74.00	75.30	73.30	74.90	+.90
November	73.90	75.10	73.10	74.50	+.60
December	73.80	75.10	73.10	74.50	+.70
January	73.70	75.10	73.10	74.50	+.80
February	73.70	75.10	73.10	74.50	+.80
March	73.70	75.10	73.10	74.50	+.80
April	73.70	75.10	73.10	74.50	+.80
May	73.70	75.10	73.10	74.50	+.80

Tops and Noils

TOPS—BOSTON

Fine (64-66s)	$0.85–$0.87
Half-blood (60-62s)	.78– .80
High ¾ blood (58s)	.70– .72
Aver. ¾ blood (56s)	.63– .65
Low ¾ blood	.60– .62
High ½ blood (50s)	.53– .55
46s S. A. and N. Z.	.51– .53
44s S. A. and N. Z.	.50– .52
40s S. A. and N. Z.	.48– .50

TOPS—BRADFORD, ENG. (JULY 24)

Fine (70s)	26½d	¾ bld. (56s)	16 d
Fine (64s)	23½d	½ bld. (50s)	12½d
¾ bld. (60s)	21½d	Cross-bred (46s)	10½d
¾ bld. (58s)	18½d		

NOILS—BOSTON

Fine	$0.38–$0.41	High ½ bld.	$0.31–$0.33
Half-bld.	.36– .38	Low noils	.27– .30
Aver. ¾ bld.	.34– .36	Medium colored	.24– .26
Fine colored.	.31– .33		

Wool Substitutes

WOOL WASTE

Lap, fine white	$0.63 –$0.67
Lap, fine colored	.46 – .50
Hard ends, fine white	.52 – .55
Hard ends, ¼ blood white	.37 – .40
Hard ends, fine colored	.25 – .27
Hard ends, medium colored	.18 – .20
Card, fine white	.23 – .26
Burr, fine Carbonizing	.27 – .30

OLD WOOLEN RAGS (GRADED FOR MFRS.)

Merinos, Coarse Light	$0.05 –$0.05½
Merinos, Fine Dark	.03½– .04
Merinos, Fine Light	.11 – .11½
Serges, Blue	.05½– .06
Serges, Black	.05½– .06
Serges, Red	.08 – .09
Knit, White	.23 – .24
Knit, red	.10½– .11
Knit, Light Hoods	.13 – .14
Worsted, Light	.05 – .05½
Worsted, Blue	.05½– .06
Worsted, Black	.06 – .06½

Silk Yarns

THROWN SILK (60 day basis)

	Nominal
Japan organzine, 2 thd. spec. gd. XX. sk. 85%	$3.90
Japan organzine 2 thd. grand sk. 83%	3.75
Japan organzine, 2 thd. sp. crack. sk. 81%	3.60
Japan crepe, 3 thd. gd. XX bob. 83%	3.70
Japan crepe, 3 thd. sp. crack. bob. 81%	3.55
Japan grenadine, 4 thd. sp. grand singles. 87%	5.00
Japan grenadine 3 thd. 90%	5.75
Canton crepe, 3 and 4 thd. ns. 14/16 on bobbins	2.65
Hosiery tram, 3 thd. Japan 90%	4.80
Hosiery tram, 5 thd. Japan, 85%	3.65
Hosiery tram, crack XX 78%	3.30

SPUN SILK YARNS (Terms: net 30)

40/2	$3.10	60/2	$3.45
54/2	3.30	62/1	2.35

Raw Silk

(60 Day Terms. Spot Goods.)

	13/15 White	20/22 White	20/22 Yellow
Super Grand, 86/88%	$3.10	$2.55	$2.40
Special Grand, 85%	2.90	2.45	2.35
Grand XX, 83%	2.75	2.40	2.30
Special Crack, 81%	2.65	2.40	2.30
Crack XX, 78%	2.55	2.35	2.25
Extra Extra, 73%	2.50	....	....
Best Extra, 68%	2.45	....	....
Canton filature, new style, 14/16			$1.65
Canton filature, new style, 20/22			1.55
Tussah filature, 8 cocoon			1.05

NATIONAL RAW SILK EXCHANGE

	Closed July 22	For the Week High	Low	Closed July 28	Net Chge.
July	2.40	2.40	2.30	....	....
August	2.37	2.37	2.28	2.31	—.06
September	2.35	2.35	2.27	2.29	—.06
October	2.34	2.34	2.27	2.29	—.05
November	2.33	2.33	2.26	2.29	—.04
December	2.33	2.33	2.26	2.29	—.04
January	2.33	2.33	2.27	2.28	—.05
February	2.33	2.33	2.26	2.28	—.05
March	....	2.28	2.27	2.28	....

Total number of bales, 5,770. Total approximate value, $1,956,891.50. Trading unit crack XX 13/15, white 78%.

Domestic Rayon

VISCOSE PROCESS

Denier	Filament	First	Second
50	14	$2.15	$1.95
75	18–30	1.35	1.25
100	18–40	1.10	1.00
125	36–50	1.00	.90
150	30	.70	.67
150	24–40	.75	.72
150	60	.85	.82
150	75–90	.85	.82
170	24–27	.75	.72
170	60	.85	.82
200	30	.75	.72
200	35–42	75	.72
300	42–62	.63	.60
450	54–60	.63	.60
600	72–96	.63	.60
900	100–144	.63	.60

NITRO-CELLULOSE PROCESS

Denier	First Qual.	Second Qual.	Denier	First Qual.	Second Qual.
75	$1.35	$1.25	150	$0.75	$0.72
100	1.05	.95	175	.75	.72
125	.95	85			

CUPRAMMONIUM PROCESS

Denier	Filament	Price	Denier	Filament	Price
15	24	$3.10	65	45	$2.00
25	24	2.85	80	60	1.70
30	24	2.60	100	75	1.35
40	30	2.40	120	90	1.22
52	30	2.20	150	112	1.10
			180	135	.97

ACETATE PROCESS

Denier	Price	Denier	Price
45	$2.25 2.75	120	$1.90
55	2.05–2.55	140	1.30
65	2.45	150	1.40–1.85
75	1.80–2.70	200	1.55
100	1.65–2.45	300	1.50

Rayon Waste

Open bleached waste	$0.13–$0.14
Open unbleached waste	.10½
Bleached thread waste (mfs.)	.09
Bleached thread waste (misc.)	.06– .07
Colored thread waste	.01
Colored clips	.04

CONVERTED RAYON WASTE

Bleached tops	$0.30–0.32½
Unbleached tops	.28– .29
Bleached noils	.11
Unbleached noils	.09½
Bleached garnetts	.12
Unbleached garnetts	.13
Colored garnetts	.10– .11

Silk Waste

Kibizzo Kakai Grand XX	$0.50
Kibizzo Kakai Triple Extra	.44
Frison Grand Double	.49½
Pierced Cocoons	.50

Silk Employment 11.7% Below 1930

Employment in the silk industry for the first six months of 1931 was 11.7% under the corresponding period of 1930, according to statistics compiled by The Silk Association of America, Inc. June employment declined 8.1% as compared with May and 9.9% as compared with June 1930.

Domestic Wool and Mohair Production Rises in 1930

The amount of domestic wool shorn in 1929 was 310,561,000 lb. and in 1930 was 336,007,000 lb. according to revised estimates of U. S. Department of Agriculture. Pulled wool production in 1930 was 61,900,000 lb., an increase of 7,400,000 lb. over 1929. The same source estimates mohair production in the six important producing States at 16,006,000 lb. in 1930, an increase of 300,000 lb. over 1929. Texas is the largest mohair producer, accounting for about 85% of total United States production for the last two years.

Foresees Gay and Ladylike Trend in Fashion

"Fashion this fall will be gay and ladylike. More ladylike than ever—and certainly gay. The fashions of the gay 90's will be one of the most important influences in fashion this fall and the gayness of the 90's will prevail all through the coming fashion season," said Amos Parrish in the opening session of the seventh semi-annual Fashion Merchandising Clinic at the Hotel Pierre, New York on July 20.

"The ladylike and elegant trend of the mode has made the Eugenie fashions more important than they were last year. Many of the new coats take just a few fashion details from the Eugenie or late Victorian fashions. They may have the Eugenie feature of rounded, sloping shoulders, or the coat is buttoned closer to the figure, giving the 1890 look of a slightly higher and much smaller waistline. The full length dresses of the gay 90's are not coming back. Daytime dresses this fall will be middle calf length."

Imported Textiles Inspiration to New Domestic Products

Despite a popular belief to the contrary, importation of European textiles into the United States amounts in total value to only about 5% or less of domestic production and consists mostly of novelty or specialty goods which ultimately serve as samples for domestic manufacturers. This situation is shown by the National Industrial Conference Board in its recent book "Trends in the Foreign Trade of the United States."

New weaves and designs are constantly brought in and if they take the popular fancy and the demand becomes great enough, the American manufacturer will begin to manufacture them on a large scale. In this way, says this report, cotton manufacturers were led to produce voiles, when that fabric was successfully imported from England shortly after 1908. Silk chiffons, originated in France, were reproduced here and the same is said to be true of georgette.

Transparent velvet, a pile fabric of rayon on a silk ground, was introduced into the United States from France in 1925 and met with instant success. The demand for this fabric in the intervening years has taxed the production capacity of both American and European manufacturers. It also has helped the domestic industry recover from a depression due to a shift in style from use of velvets in millinery.

Velveteen Aid Cottons As Year-Round Fabric

A pre-view of the fall mode reveals further opportunity for cottons to make a strong bid for year-round recognition, and bright prospects of continued favor for the approaching fall and winter season, according to Charles K. Everett, of the New Uses Section, Cotton-Textile Institute, New York.

Velveteens are now sponsored by many high-style dressmakers who had not previously used this fabric. They were strongly emphasized by noted Paris couturiers in recent mid-season showings, and were given additional prominence by many important Paris houses in the recent fashion promenade in connection with the International Cotton Congress. In coats, suits and costume ensembles, velveteen was accorded outstanding recognition. There is also a high regard expressed for velveteen in children's dressy frocks and costumes.

Corduroy, which has become a classic in winter sports and outdoor costumes of all types, now strikes a new fashion note in formal day-time coats.

Cotton Correlation Chart for Winter Out

The Color Correlation Chart for Fall and Winter 1931 has just been released to members, it is announced by the Textile Color Card Association, New York. Intended primarily as a guide to retailers, the chart will prove useful to manufacturers in indicating the preferred shades for the various accessories which make up the ensemble.

Japanese Raw Silk Firm Gets N. Y. State Charter

A Japanese raw silk importing company, Shinyei Kiito Kaisha, Inc., has incorporated in New York State with offices in the Empire State Building, New York. Yoshio Kumura was listed as attorney in fact. The firm's Japanese offices are at 23, Chome Sakayemachi, Kobe, and the company is chartered at 7,500,000 yen in shares of 50 yen each.

Award Foundation Fellowships in September

Stuart W. Cramer, Sr., treasurer of the Textile Foundation, Inc., announced in Charlotte, N. C., Tuesday, that the Foundation fellowships, totalling $100,000 will be distributed in September. Applications now are being investigated.

DuPont to Show "Acele" Linings at Atlantic City

A boardwalk window display of "Acele" lining fabrics from Dykeman, Loeb and Co., Philadelphia, Pa., will be shown at the DuPont Rayon Co. exhibit, Atlantic City, N. J., next week. Jacquards, twills, fancy serges, and plain weaves will be shown in finished garments from leading clothiers.

Russia's Cotton Area Increased 50%

The area sown to cotton in Soviet Russia, during the last spring is estimated at 2,390,000 hectares (nearly 6,000,000 acres), which is 50% above last year's sowings, according to the *Economic Review of Soviet Russia.* Due to improved methods in cultivation of the crop, however, the yield this year is expected to be 80% above last year.

State cotton farms have been established, occupying an area of over 200,000 hectares. The *Review* states that 152 machine and tractor stations, with 8,000 tractors, will take care of 90% of the cotton sowings. Over 120,000 tons of fertilizer, 820,000 tons of grain, and 250,000,000 rubles' worth of manufactured articles have been assigned for the cotton area. Another 100,000,000 rubles in cash will be paid out in the form of advances to those who have contracted to sell their crop to the government.

It is expected that a minimum of 1,900,000 tons of raw cotton will be secured through contracts, says the *Review,* and 200,000 tons more are expected to come from state farms. The amount of cotton to be collected by the government this year is more than double that set in the original Five-Year Plan for 1932 (786,000 tons).

Correction

W. Stanley Grimshaw, manager of the Kingston, Ont., plant of Hield Bros., Ltd., prominent English woolen manufacturers, states that their new plant was formally opened July 27 by the Mayor of Kingston in the presence of the corporation, members of the Kingston Chamber of Commerce, and other prominent citizens. The company expects to install about 100 looms in the comparatively near future, contrary to the report which appeared in the July 25 issue of TEXTILE WORLD stating that the number of looms would eventually be 250 when production reached its peak.

▸ Study of Spun Rayon Count is Planned

A study of spun rayon count with the end in view of arriving at a uniform system was recommended Tuesday at a meeting of representatives of the spun rayon industry, held at the New York headquarters of the Silk Association of America, Inc. under the auspices of that organization and of the United States Testing Co., Inc. The need for a uniform spun rayon count system to clear up confusion now existing in the market was emphasized at the meeting. A group conference of producers and consumers of spun rayon yarns will be called to undertake the study.

▸ Producers Stock Rayon Anticipating Shortage

A noticeable increase in the demand for rayon developed during the last two weeks of July and the feeling prevails in the trade that a shortage of yarns is possible during the autumn, it is stated in the current issue of the *Textile Organon*, published monthly by the Tubize Chatillon Corp. The *Organon* adds that because of this situation, and the fact that seasonal buying has developed several weeks earlier than usual, some producers are beginning to stock yarns in anticipation of the autumn demand.

The review for the first time gives figures showing the country's capacity for the manufacture of rayons. The capacity as of July 1, 1931, based upon a survey, aggregates 193,800,000 lb., including capacity for 15,000,000 lb. for which machinery has been purchased and delivered, but is not as yet in operation.

▸ Boston Wool Receipts

Receipts of domestic and foreign wools at Boston, also imports at Philadelphia and New York for the week ended July 25, based upon data compiled by the Department of Agriculture, follow:

	Week Ended July 25	Total to Date 931	Total to Date 1930
Domestic	9,515,000	167,359,000	159,314,000
Foreign	318,000	28,798,000	42,726,000
Total	9,833,000	196,157,000	202,040,000
IMPORTS AT PRINCIPAL PORTS			
Boston	318,000	28,798,000	42,726,000
Philadelphia	1,234,000	32,449,000	31,223,000
New York	1,441,000	30,383,000	28,159,000
Total	2,993,000	91,630,000	102,108,000

▸ Trouble-Saving Tricks for Adjusting Loom-Pick

(Continued from page 33)

from the opposite end of the loom. The picker *L* rides on the picker spindle *K*. Small leather washers *N* keep the constant bumping of the picker from wearing out the leather buffer *M*. The use of these washers, which may be replaced once a week, reduces the cost of buffer replacements in the section in which they are employed.

Fig. 11 illustrates the various positions of the stick on the box side of the loom. Position 2 is that of the stick at the start; number 1, as the pick is going forward; and number 3, at the time the stick is driven against the bumper. The same principle of adjustments should be followed on this side as were followed on the plain side.

On wide looms where it is difficult to secure the proper picking motion and on narrow looms that are giving trouble with broken sticks and other picker-sticks difficulties, a novel as well as time-saving trick is shown in Fig. 12. This consists of an extra attachment placed on the picker stick. A piece of hardwood (an old picker stick can be cut out on the band saw for the purpose) is cut 1½ in. wide by 1 in. thick, as at *A*. Instead of boring holes in the picker stick for the lug-strap support, this extra stick is used for the purpose. Front and side views are shown at *A* and *B*, respectively. A strip of single-ply leather 1 in. wide is fastened at the top 2 in. from the end as at *D*, and slipped over the picker stick as at *C*. The leather strap *D* should be tight when in position, as shown at *E*. A hole is bored in the bottom at *F* and the stick either screwed or bolted to the picker stick in the position shown. I have had picker sticks last for over three years on looms equipped with this extra stick, and can well recommend it for any fixer's consideration.

A handy device made from a reed box is shown in Fig. 13. The side strips of a reed box are cut in three pieces and fastened to the work bench. One strip is nailed fast to the side of the work bench, while the other strip can be removed and placed in various positions by means of lag bolts screwed into certain places on the bench. The strip *A*, or cross piece, is moved by means of a bolt through the bottom strip. This may be made fast by tightening a thumb-screw on top. Lag bolts at *B* are movable in two other directions. Slots of just sufficient width to take the blade of a pocket knife, are placed in the strip *A*. These five slots have corresponding holes in the bench into which the point of the knife fits. When a strip of leather of a certain width is desired, the frame is adjusted and the leather pulled through the knife being set in such a manner that the desired width will be obtained. It is surprising what a neat-appearing check-strap or buffer-strap can be cut.

World Rayon Output

Manchester, Eng. Radio. **Preliminary estimates show world production of rayon first half 1930 as 204,700,000 lb., United States 58,800,000 lb., Italy 30,360,000 lb., Germany 26,800,000 lb., Britain 23,700,000 lb., Japan 21,500,000 lb., France 16,000,000 lb., British excise returns for second quarter show larger amount British produced yarn consumed here than in any corresponding quarter previous years.**

▸ Japanese Silks Competing With Rayon in Australia

Japanese silk fabrics such as crepe-de-chine are getting the Australian business as their prices compete with rayon fabrics, according to cabled advice received by the Department of Commerce from Trade Commissioner Earl C. Squire, Sidney. There is little call for canton crepes and English printed rayons are quoted under United States prices. A fair demand continues for American cottons with check effects, also dimities and cambrics.

Plans of Colonial Knitting Mills Stated by President

IN VIEW of the various inaccurate and unauthorized reports circulated as to the plans of the Colonial Knitting Mills, Inc., Philadelphia, for the location of a branch mill at Cape May Court House, N. J., the following official statement made by H. A. Norris, president, to TEXTILE WORLD, is of interest:

"The Colonial Knitting Mills, Inc., Clearfield and B Streets, Philadelphia, Penn., purchased 70 acres of land at Cape May Court House, New Jersey.

"The 70 acres have a frontage of 400 feet on the main highway; a plot of 285 x 350 will be reserved for industrial buildings. The remainder of the land will be reserved for building sites and the building of homes for employees. Building sites will be large enough for land-scaping and reasonable cultivation.

"The Austin Company, Cleveland, Ohio, Engineers and Builders, have the contract for the building of the first unit of 12,000 square feet, which will house 25 full-fashioned machines. The building will be completed October 1, 1931.

"The first unit of 25 machines will employ 100 people working two shifts, the morning shift will start at 7.00 a.m. and stop at 3.30 p.m. with ¾ hour lunch period, a total of 43 hours per week. The afternoon and evening shift will start at 4.00 p.m. and stop at 12.30 p.m. with a ¾ hour lunch period, a total of 36¼ hours per week. Shifts will change each week from morning to afternoon.

"The work hours are arranged with the idea of giving the employees time enough off during daylight hours so that they can employ their spare hours in gainful healthful occupation."

"Operation in the new building is expected to start by November 15, 1931."

The Colonial Knitting Mills, Inc., in addition to the main plant at Clearfield and B Streets, Philadelphia, also operate branch plants at 1011 Diamond Street, Philadelphia, and also at Mohnton, Pa.

Business News

To Manage Providence Office of Anderson, Clayton & Co.

H. E. Feibelman has joined the Anderson, Clayton & Co. organization as manager of the Providence, R. I., office. He was formerly associated with McGee, Dean & Jones, cotton merchants, having been with this firm for 21 years, starting as cotton buyer in Leland, Miss., and becoming a partner in 1922. For the last three years he has been in the New Bedford, Mass., office.

Represents C. E. Craver & Son Co. in South

J. E. Hamilton has resigned his position with the Hamilton Machinery Co. in order to become southern representative of the C. E. Craver & Son Co., manufacturers of picker sticks. Mr. Hamilton has made his headquarters in Charlotte, N. C.

Appointed Agent for Sonntag Machine Works

H. H. Leonard, 475 Fifth Avenue, New York, was appointed sole agent for the United States and Canada for the Otto Sonntag Machine Works, Glauchau, Saxony, Germany, manufacturers of high grade textile finishing machinery. They specialize in carpet shearing machines up to 25 feet in width, napping machinery, etc.

Edward Howard Joins H. M. McCord Co.

Edward Howard has been placed in charge of the office in Greenville, S. C., recently opened by the H. M. McCord Co., specialists in textile machinery. Mr. Howard was formerly with the Fales & Jenks Machine Co., Pawtucket, R. I., and before that was associated with the Mason Machine Works, Taunton, Mass.

Report on G. E. Six Months' Sales

Orders received by the General Electric Co. for the first six months of 1931 amounted to $141,428,978, compared with $190,313,758 for the corresponding period last year, Gerard Swope, president, announced recently.

Sales billed for the six months of 1931 amounted to $141,180,091.13, compared with $197,229,346.82 for the corresponding period last year.

Profit available for dividends on common stock for the first six months of 1931 was $21,523,722.88, compared with $29,273,276.14 for the first six months last year.

Westinghouse Reorganizes Headquarters Sales Department

J. S. Tritle, vice-president and general manager, of the Westinghouse Electric & Mfg. Co., in announcing the appointment of T. J. Pace, assistant to vice-president, in charge of general market planning and research analysis; M. B. Lambert, sales manager in charge of transportation department; O. F. Stroman, sales manager in charge of industrial department; and R. A. Neal, sales manager in charge of central station department, stated that changed economic conditions required constructive re-alignment of all departments, so that the company could more effectively serve its thousands of customers and at the same time carry on more progressive development for the needs of all industries.

Beveridge Re-Needling Co. Opens Chattanooga Plant

Chattanooga — The Beveridge Re-Needling Co., of Gastonia, N. C., has established a branch plant here for repairing cotton combs used in textile mills. George Rhyne, formerly of Gastonia, is manager of the new branch.

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Obituary

Frederick Grove-Palmer

Frederick Grove-Palmer, a contributor of technical articles to TEXTILE WORLD and other business publications, died recently in England at the age of 52. Mr. Grove-Palmer had earned a reputation as a writer on many economic and technical subjects. He was an associate of the Institute of Chemistry. He is survived by his widow, two daughters, and a son.

William O. Elliott

William O. Elliott, vice-president and treasurer, Edenton (N. C.) Cotton Mills, died at his home July 24 from a heart attack following an illness of two weeks. He was 65 years of age.

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Business Literature

Steel Products. International Nickel Co., New York. Directory of manufacturers, fabricators and distributors of nickel alloy steel products.

Looms. The Stafford Co., Readville, Mass. Advantages and savings effected by use of Stafford shuttle changing looms described.

Transmission Drives. Allis-Chalmers Mfg. Co., Milwaukee. Illustrated folder showing various types of Texrope drives and uses in textile mills.

Stokers. Combustion Engineering Corp., New York, N. Y. Specifications and uses of type E stoker described.

Bearings. Shafer Bearing Corp., Chicago. Catalog 10 of series gives complete specifications and dimensions and prices of Shafer roller bearing units.

Chains. Link-Belt Co., Chicago. Advantages of "Promal" chain for power transmission and conveying service, and dimensions and strengths, presented.

Motors. Reliance Electric & Engineering Co., Cleveland, Ohio. Describes type AA Reliance induction motors with ball bearings for two and three-phase alternating-current circuits.

Lighting. The Benjamin Electric Mfg. Co., Des Plains, Ill. Newest methods and advantages of industrial lighting improvements discussed in revised edition of handbook, "A Guide to Productive Lighting for Industry."

Westinghouse Catalogs. Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa. New general catalog of 1352 pages offers complete list of Westinghouse products; "instant index" is special feature. Universal motors described in leaflet.

Air Conditioning. Carrier Engineering Corp., Newark, N. J. Importance of correct humidification illustrated in leaflet on "Dramatic Story of Manufactured Weather"

Pulleys. T. B. Wood's Sons Co., Chambersburg, Pa. Advantages and uses of cast-iron pulleys are stressed in illustrated folder showing various types.

Textile Equipment. James Hunter Machine Co., North Adams, Mass. Brochure gives specifications on six new machines designed to facilitate operations in wool and worsted mills; includes washers, fulling mills, tenter dryers, and extractors.

Drives. Worthington Pump and Machinery Corp., New York. Leaflet announces new Worthington Transmission drive, developed by Goodyear, following Multi-Y-Drive principle.

Lighting. Crouse-Hinds Co., Syracuse, N. Y. Booklets describe floodlight and other lighting equipment, citing baseball-field and golf-course uses; specifications given.

Pumps. Yeomans Crothers Co., Chicago. Characteristics and applications of Yeomans rotary compressors and vacuum pumps presented; with specifications.

Temperature. The Brown Instrument Co., Philadelphia; 100-page illustrated catalog includes descriptions of all pyrometer equipment for measuring temperatures at 3,000° F. Theory and practice of applied pyrometry explained; descriptions of thermocouples, protecting tubes and other equipment.

Presses. Ambold Machine Tool Corp., New York City. Folder describes rear-flywheel eccentric shaft, rear-flywheel gear-driven eccentric shaft, rear wheel, and other power punch presses; with dimensions.

Motors. Allis-Chalmers Mfg. Co., Milwaukee, Wis. Uses and advantages of Allis-Chalmers enclosed fan-cooled motors presented; with illustrations.

Control Equipment. The Bristol Co., Waterbury, Conn. Presents new line of air-operated control equipment (instrument section); includes construction details, operating data, list of parts, and specifications.

Paint. Sherwin-Williams Co., Cleveland, Ohio. The story of paint standardization in the plants of The Kendall Co., by R. S. Howland, purchasing agent. Booklet is illustrated with exterior and interior views of mills and villages.

Steel Equipment. Wheeling Steel Corp., Wheeling, W. Va., Industrial uses of Wheeling Corp. steel equipment presented in West Virginia State Safety Day issue of company's magazine, *Mine to Market*.

Textile Bibliography. Catalog issued by John Tiranti & Co., Maple St., London, Eng., lists textile books in print in all countries in 1930.

Portable Belt Conveyors. Link-Belt Co., Philadelphia and Chicago. "Cub" portable belt conveyor, its parts and uses, described in folder.

Paint. Medusa Portland Cement Co., Cleveland, Ohio. Two booklets on painting concrete and masonry surfaces, accenting care of surface and Medusa paint uses.

Motor Drives. Diamond Chain and Mfg. Co., Indianapolis, Ind. Stock chain drives for motor and countershaft applications and available from ¼ to 75 hp. in ratios up to 8.4 to 1, described in 64-page book.

Water-Distilling Equipment. Barnstead Still and Sterilizer Co., Inc., Boston, Mass. Modern use of water-distilling equipment in all fields explained in bound catalog, with insert giving dimensions.

General Electric Co. catalogs. Direct-current crane and hoist motors type CO-1820, GE fractional-horsepower motors and motor parts, GE quartz-rod thermostat for use with metal-melting pots, and general purpose squirrel-cage induction motors described in four folders.

Automatic Control. Brown Instrument Co., Philadelphia. Principles and applications of automatic control and uses of Brown equipment, described in 32-page booklet.

Steam Turbines. DeLaval Steam Turbine Co., Trenton, N. J. Pumps, turbines, compressors and speed reducers, especially use of pumps when handling viscous and other liquids described in 40-page booklet; leaflet tells growth and expansion of this company.

Care of Bobbins. Instruction manuals on the care and adjustment of the Utsman bobbin cleaner and the Type "K" bobbin stripper have been prepared and published by the Terrell Machine Co., Charlotte, N. C. These manuals are for distribution only to the users of these machines.

Engineering Service. J. E. Sirrine & Co., Greenville, S. C. has issued in handsome portfolio style a series of five advertisements which have run in trade periodicals. Each quotes the Book of Nehemiah and draws a modern lesson from the bible precept. The following are the focal points of the series: Modernization, organization, stabilization, coordination and realization.